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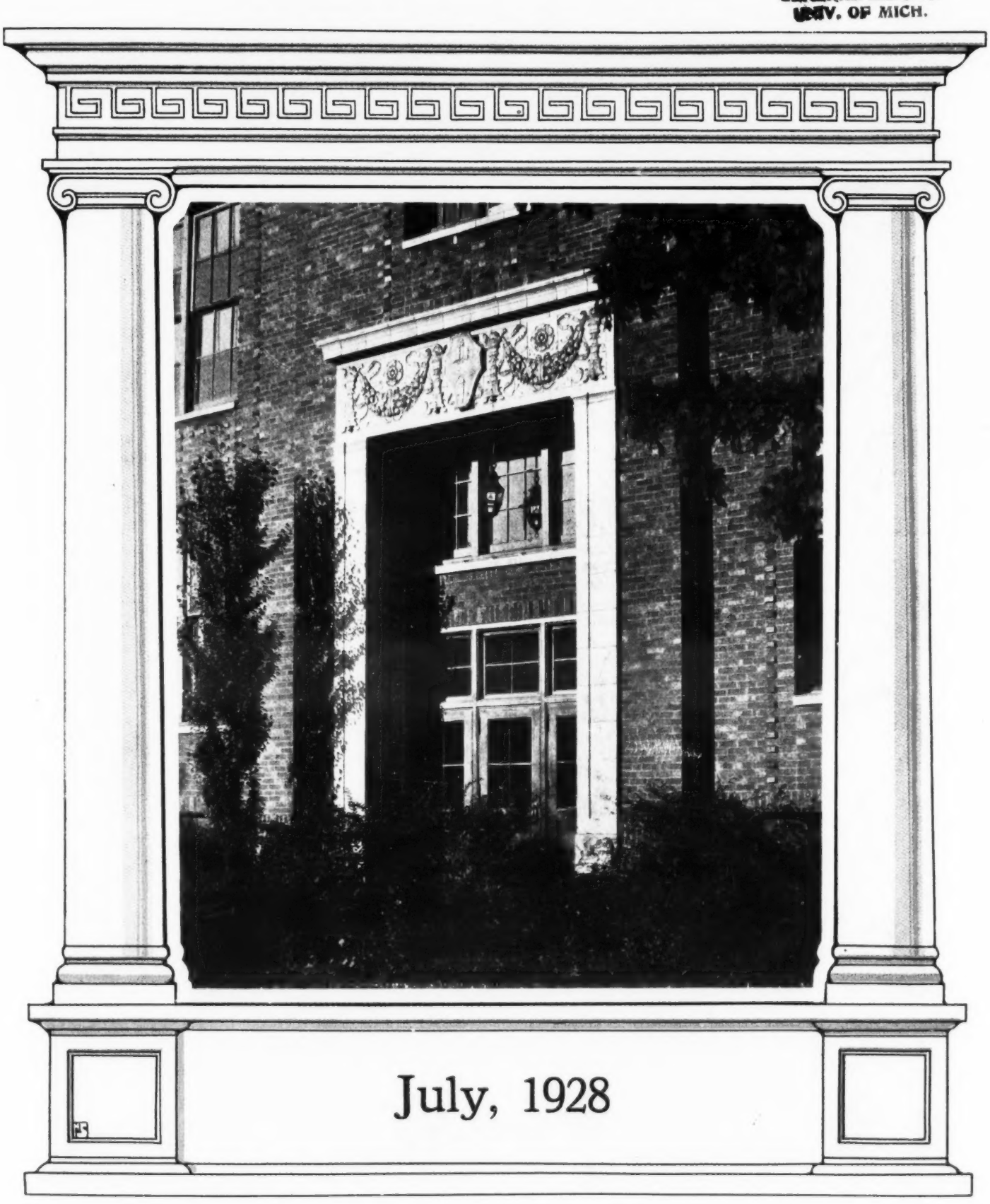

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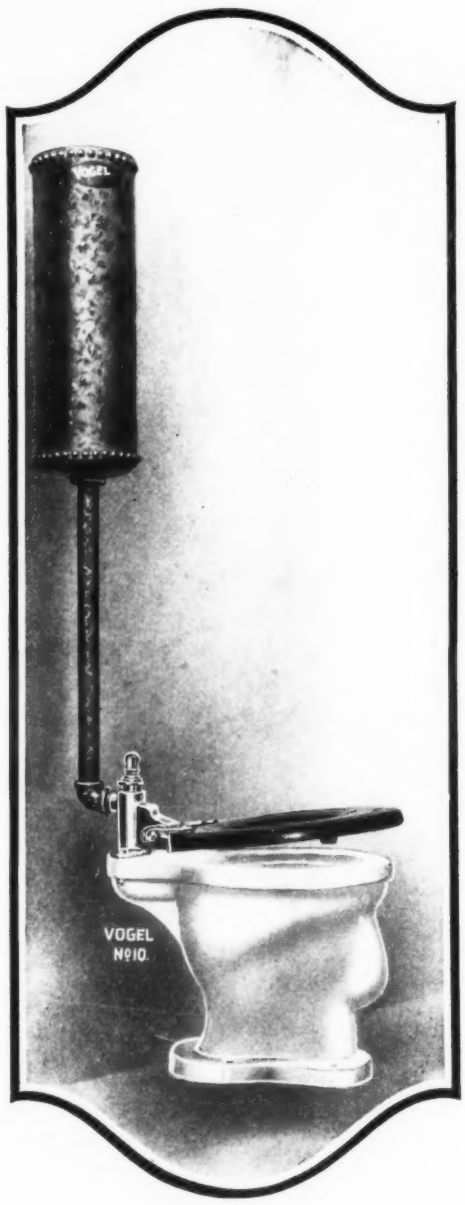

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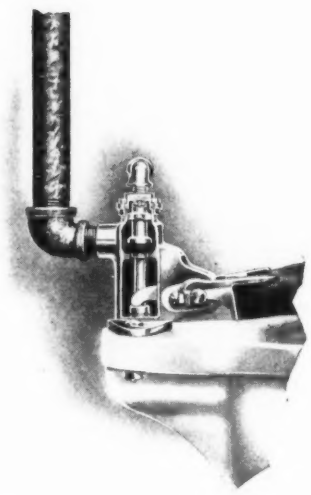

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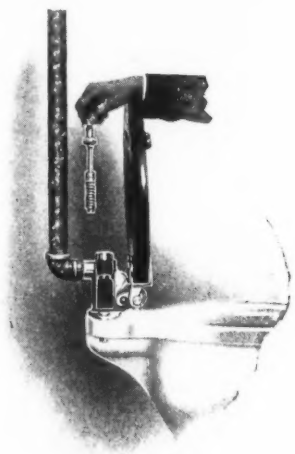

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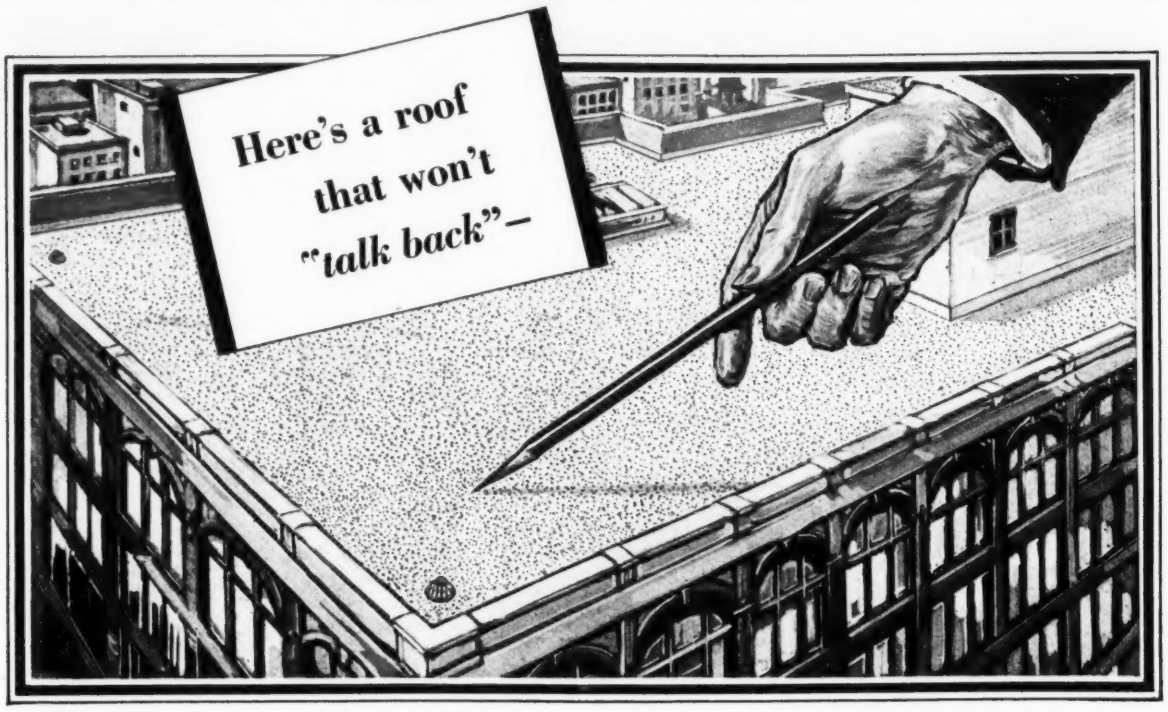

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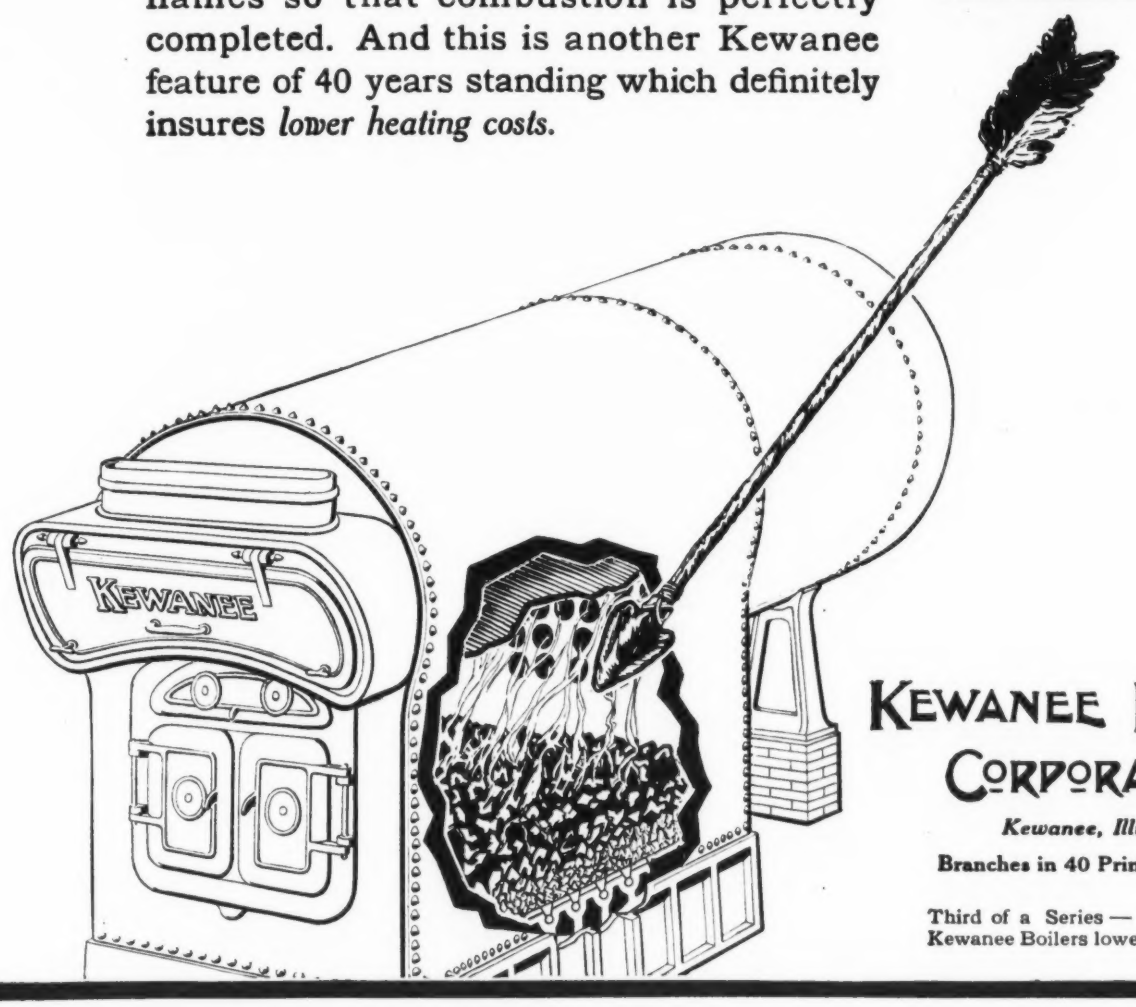

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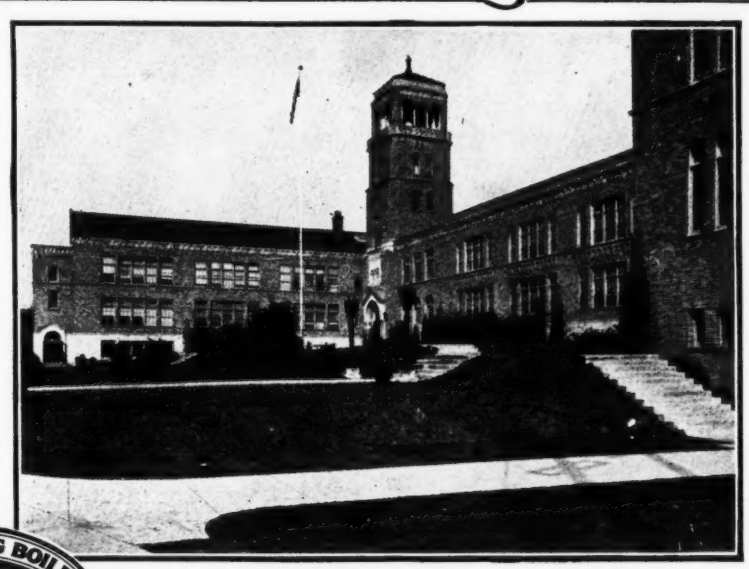

Jefferson High School, Los Angeles, Calif., Allison & Allison, Architects. Two No. 814—4500' Pacific Oil Fired Boilers installed by F. J. Donnelly, and one No. 814—4500' Pacific Oil Fired Boiler installed by J. M. Eustace.

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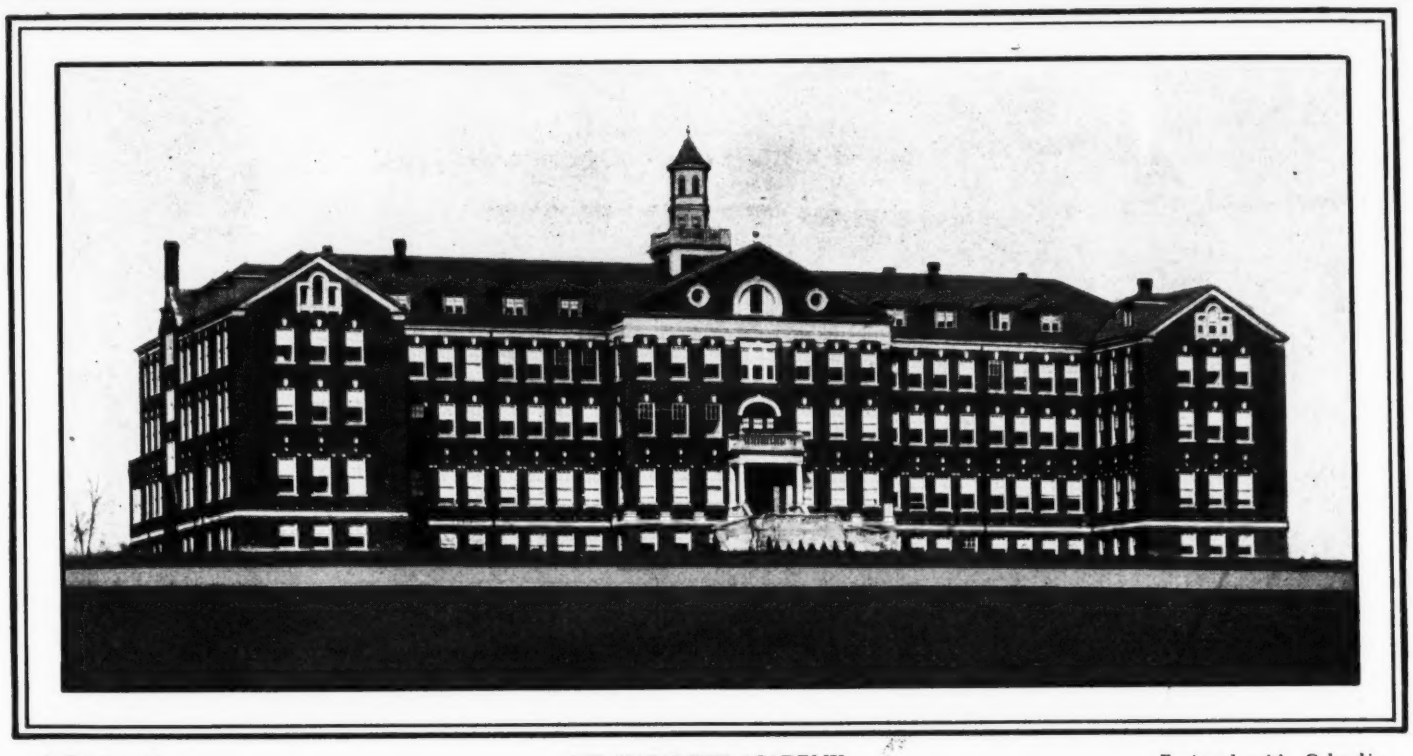

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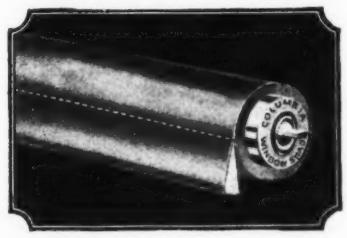

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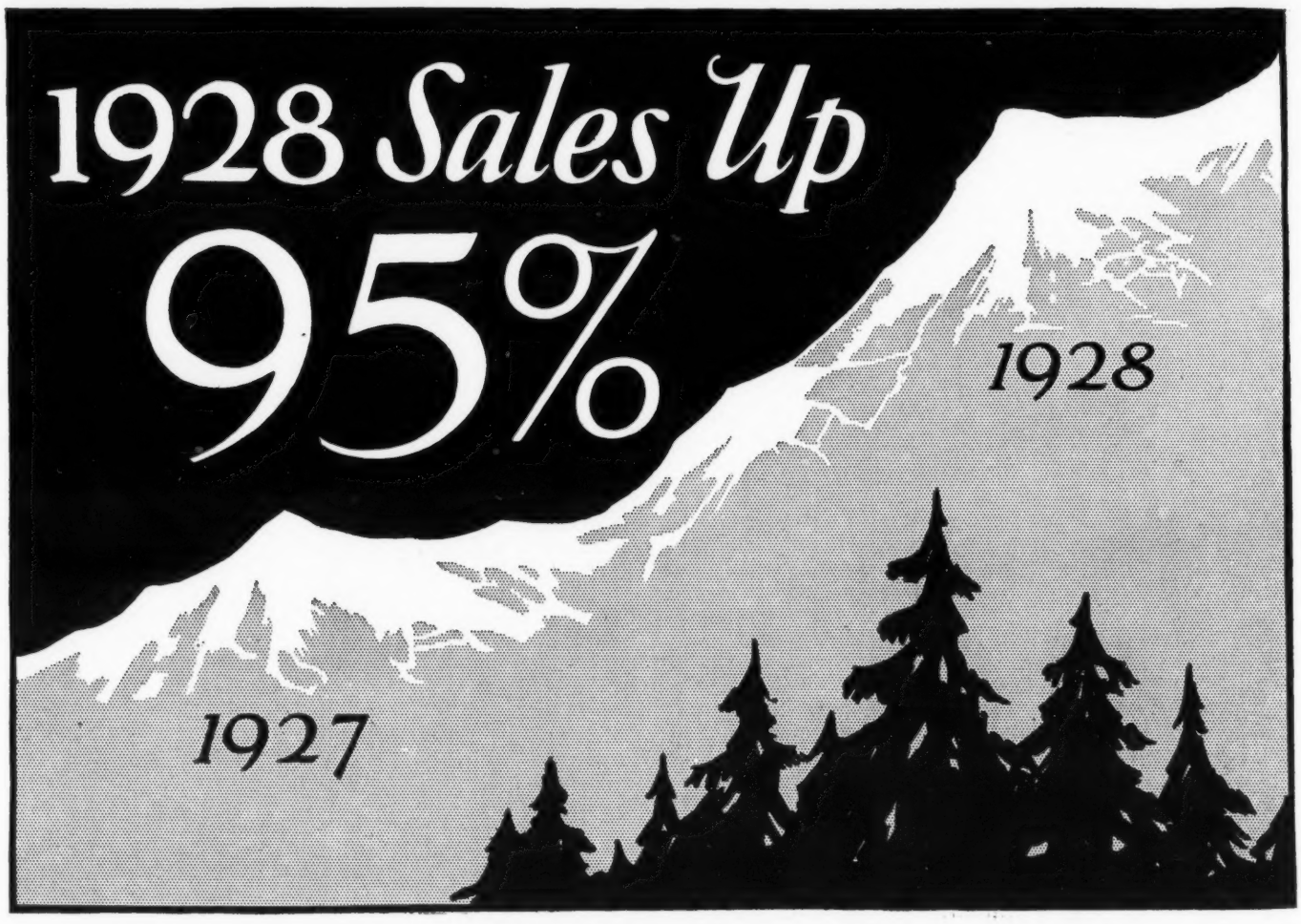

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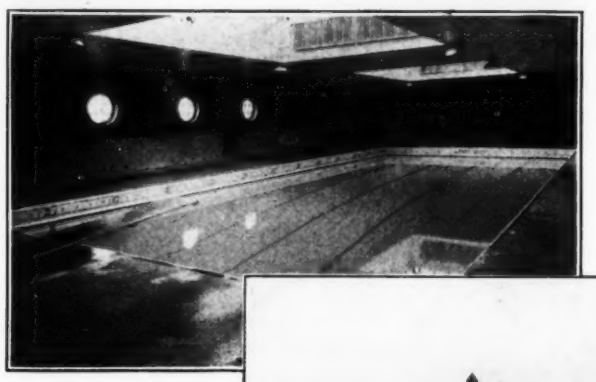

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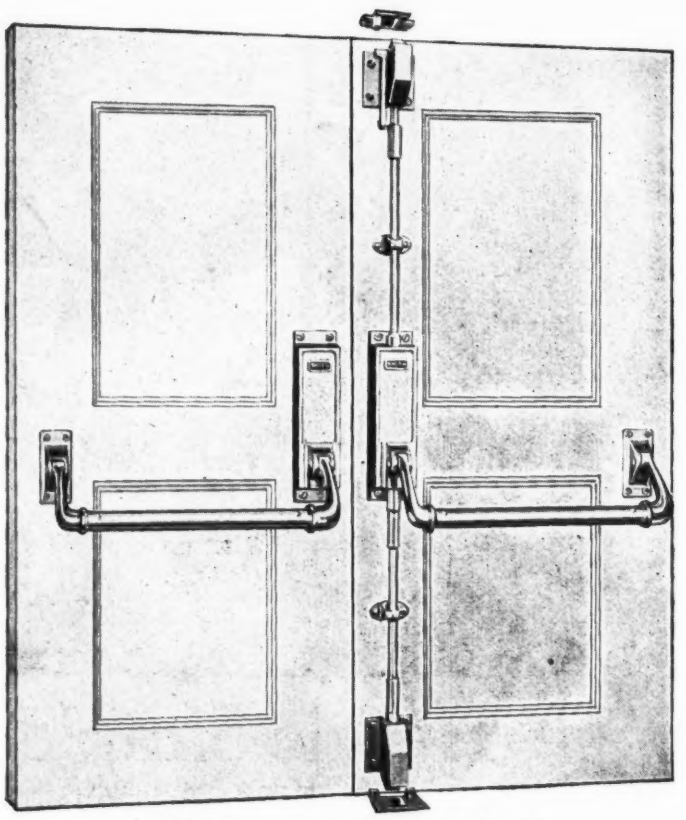

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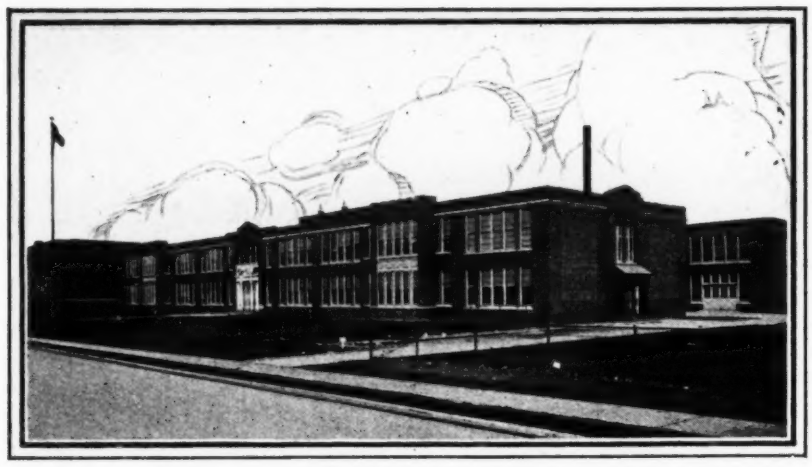

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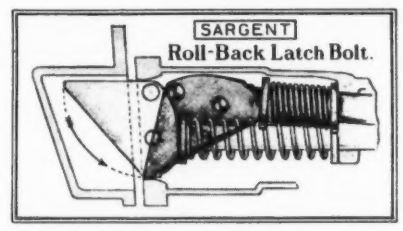

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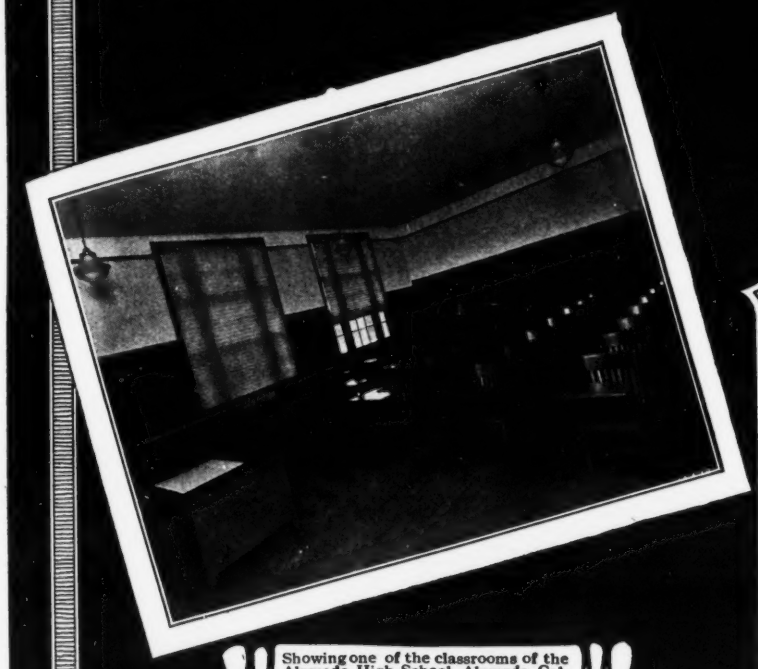

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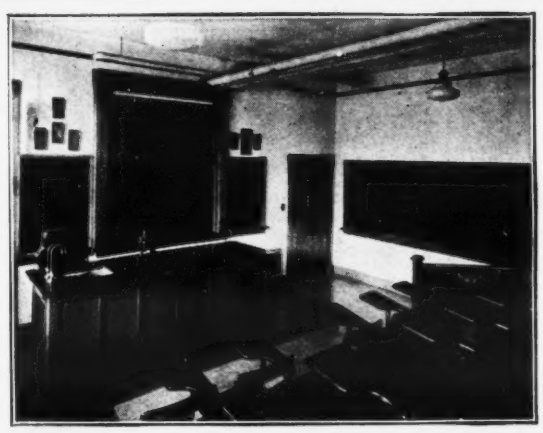

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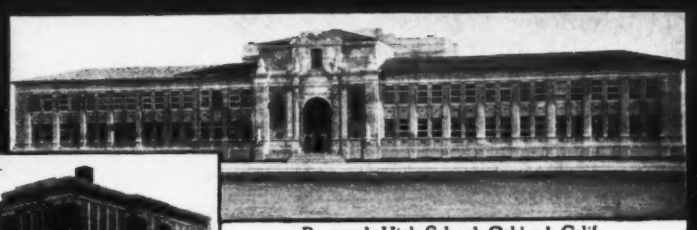

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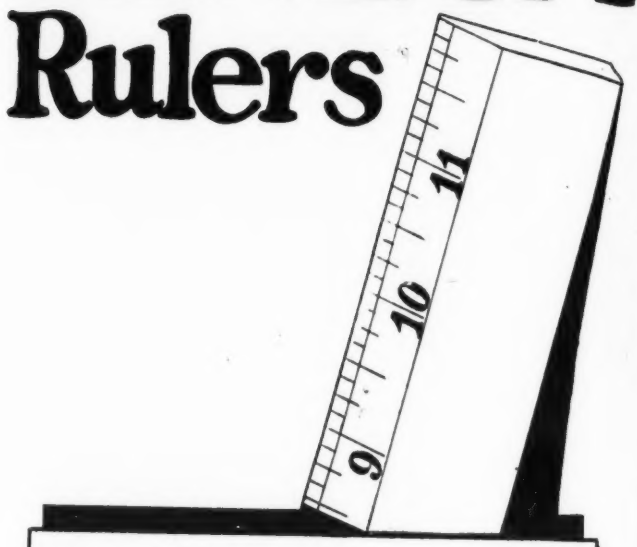

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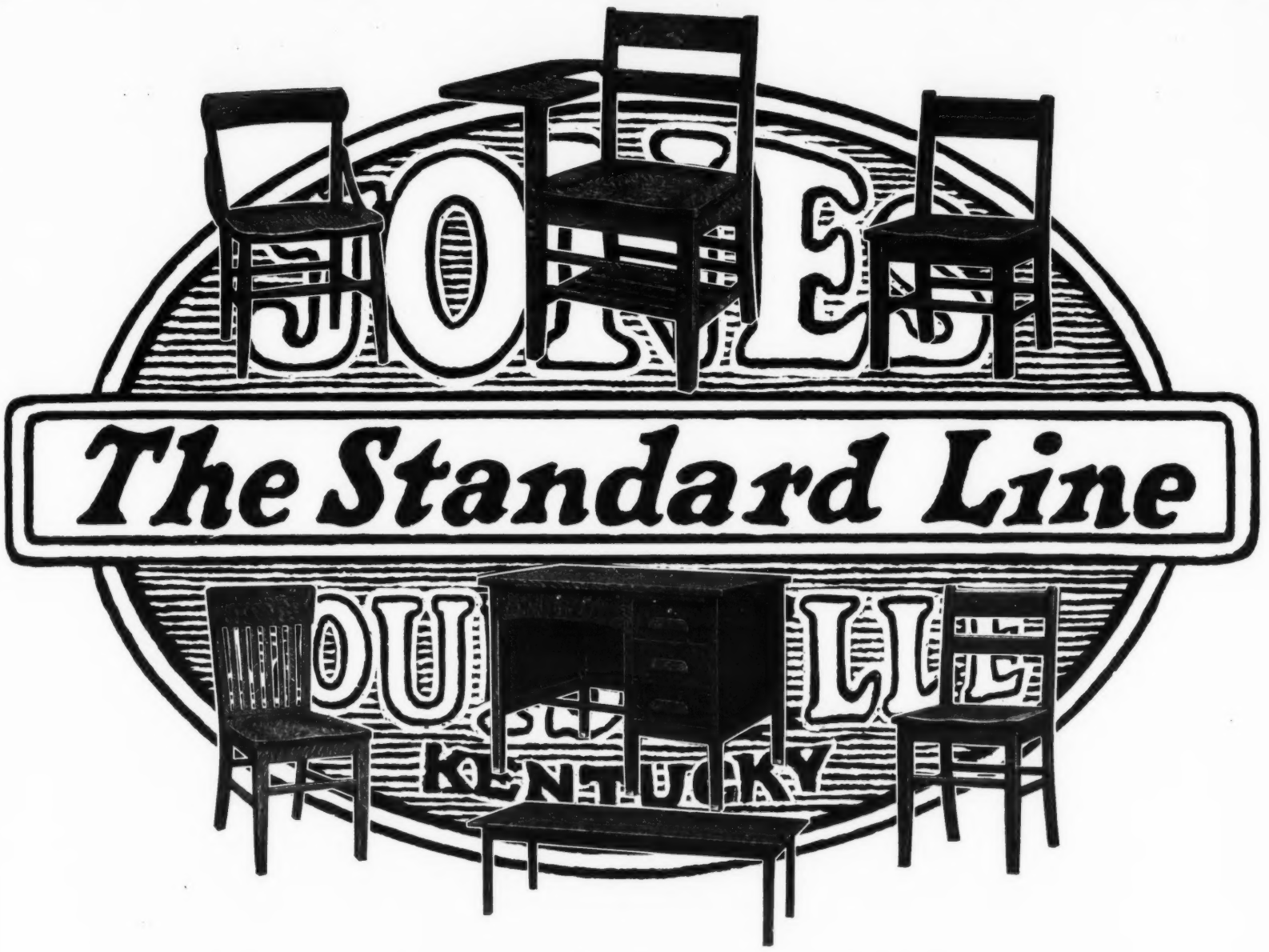

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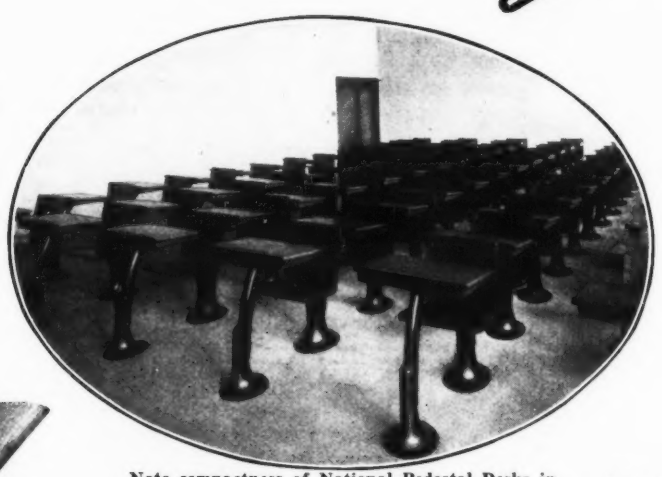

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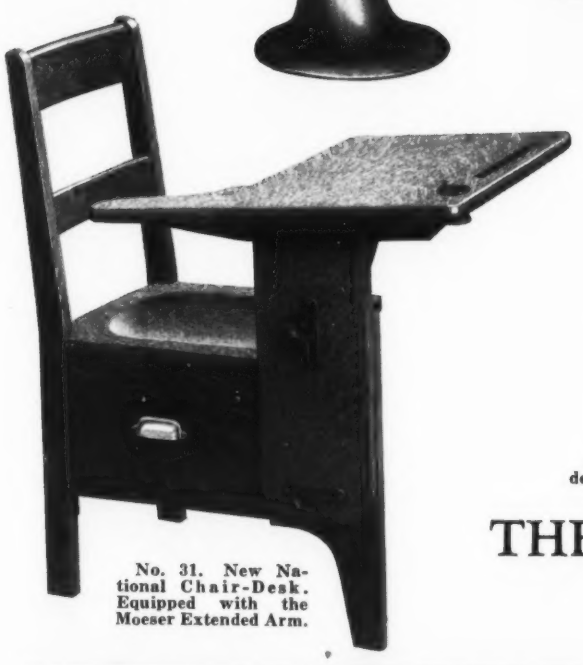

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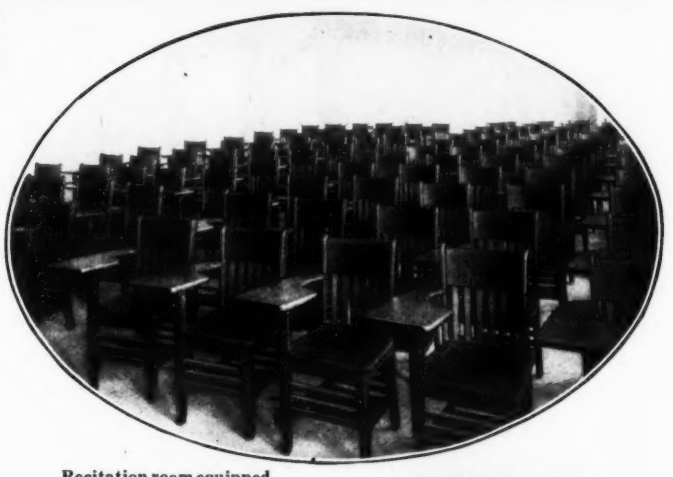

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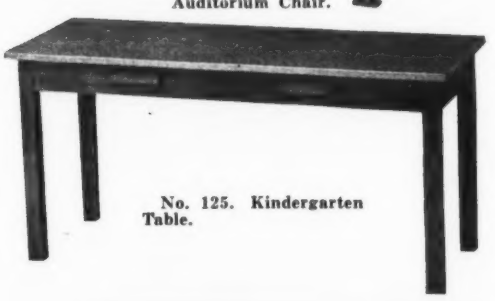

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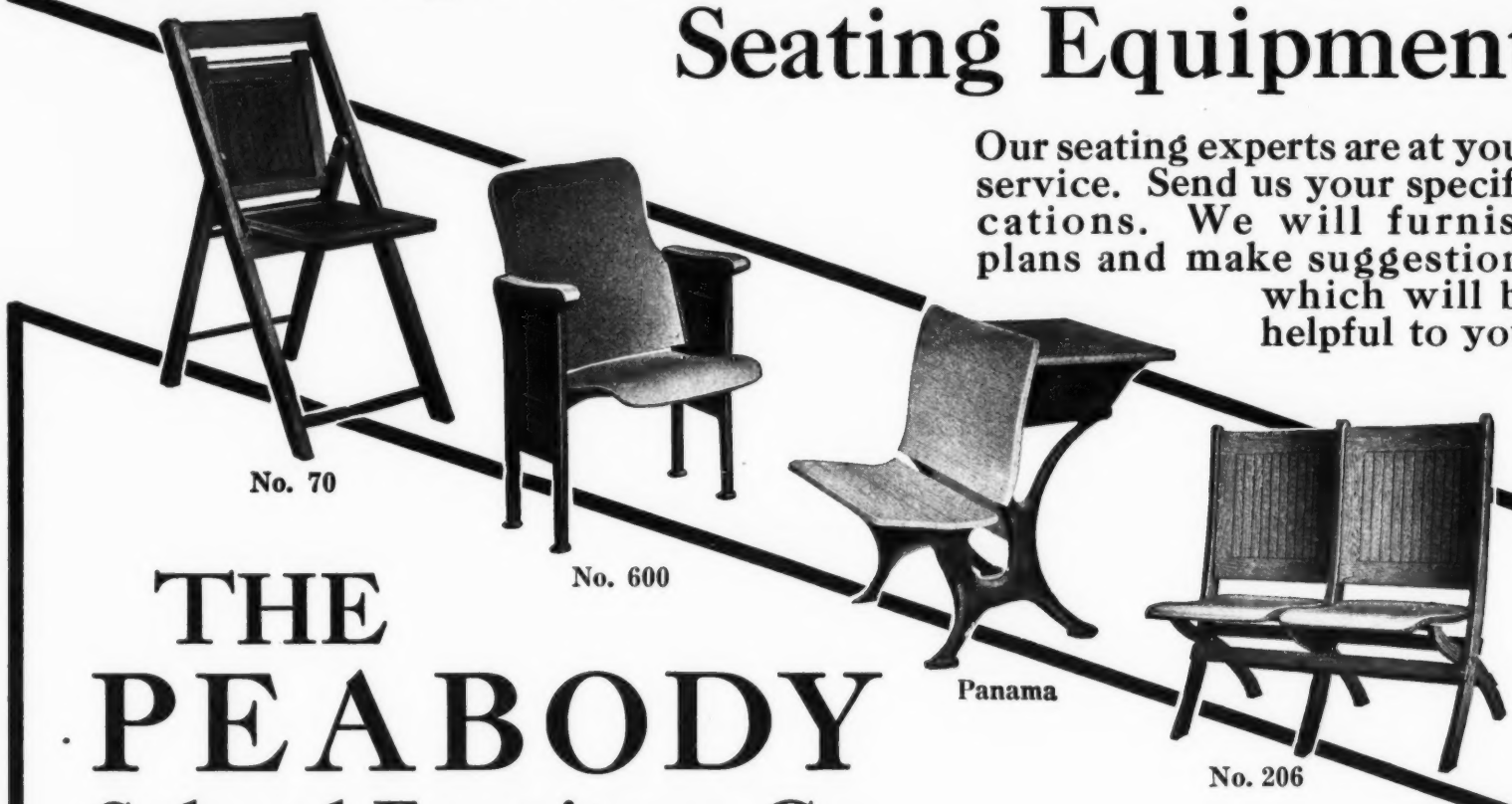

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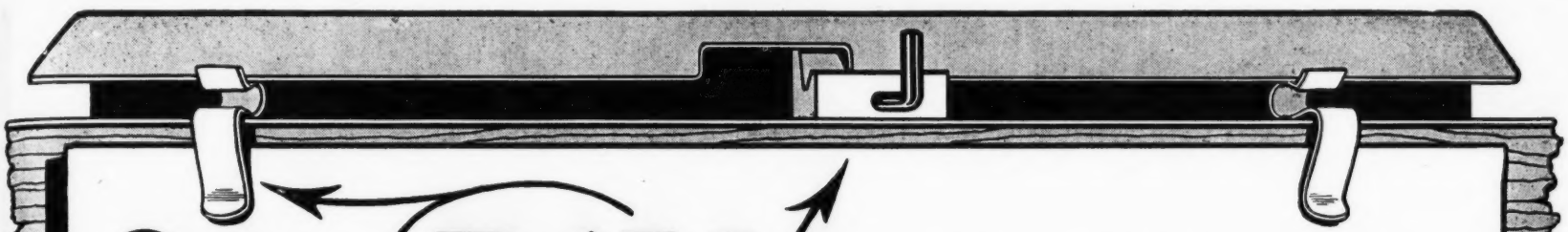
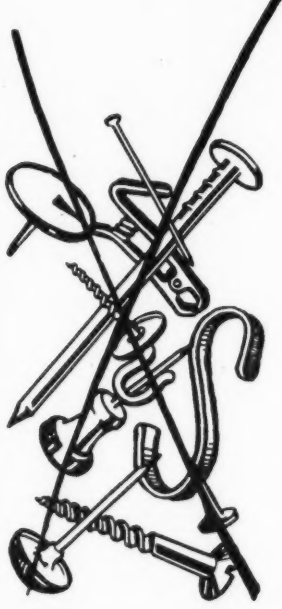


The DAY has come ~makeshifts must go!



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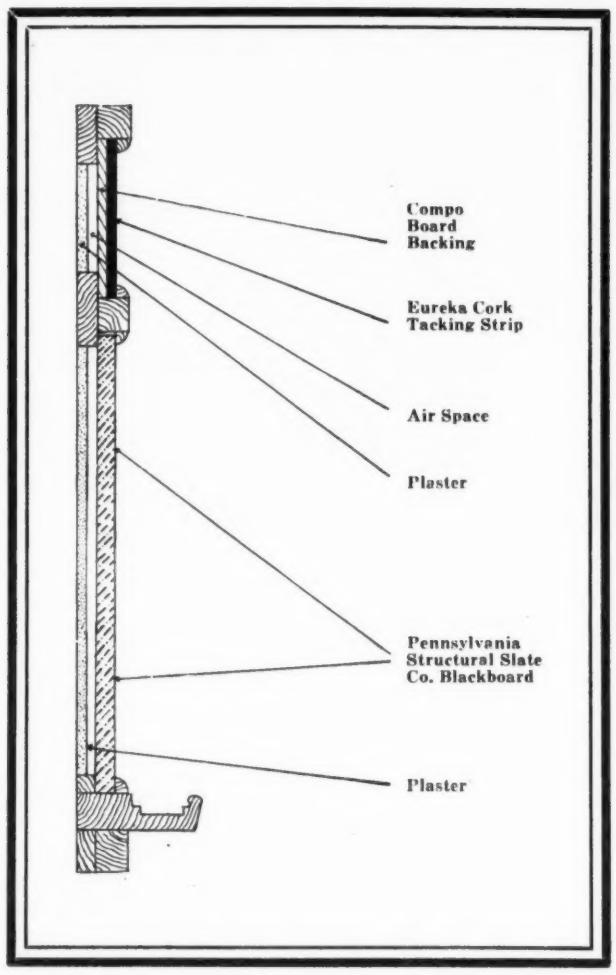

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Only materials of uniform quality, standardized in price and installed according to the best methods, can stand up under such a guarantee. Pennsylvania Slate Company products have been doing so for a quarter of a century.

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Name.....

Address.....City and State.....

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"The Furniture Capital of the World"

GUNN Furniture is made by experienced craftsmen who have made furniture building their life's vocation. This insures highest quality of construction, cabinet work and finish.

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With Inlaid Lino Top

— GUNN SELF-ADJUSTING TOP —

A Special Convenient Feature

Our Patented Self-adjusting Device permits adjustment of top at any angle by simply raising top to height desired. When top is raised to vertical position the adjustment ratchet is automatically released and top returns to flat position.

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Grand Rapids, Michigan

Thirty Years Builders of Office Desks and Tables

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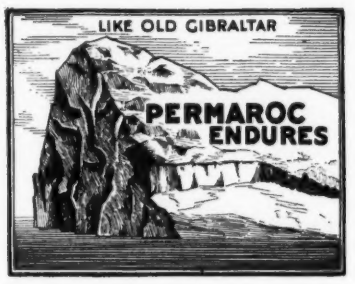
DUROPLATE
THE GUARANTEED BLACKBOARD



TRADE MARK
ENDURAROC
BLACKBOARD

Permanency, Serviceability, and Blackboard Economy is the result where DUROPLATE, PERMAROC or ENDURAROC Blackboards are installed. This fact has been demonstrated in thousands of schools throughout the United States, Canada, Cuba, Mexico, Australia, Norway, South Africa, and other countries. Millions of feet are in daily use. They have proven their worth and adaptability to all types of buildings and practically all climatic conditions. Their writing surfaces are unexcelled. No other blackboards possess a writing surface comparable to our troweled surface for smoothness, dark uniform color, and writing qualities.

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No. 7724

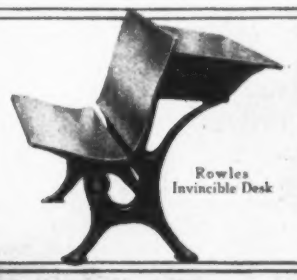
No. FF1243

Collegiate Chair Desk

No. 7722 T.A.

Combination Adjustable Desk

Everfast Pedestal Desk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Chicago Pedestal Desk

E.W.A. ROWLES CO.
2345-2351 South La Salle Street
CHICAGO ILLINOIS
Dealers—Write for Agency; some Good Territory still open

The Rowles line embodies every practical type of pupil's desk, opera chair, portable assembly chair, tablet arm chair, teacher's chair, kindergarten table, kindergarten chair and miscellaneous school furniture obtainable. If you do not have our latest catalog be sure to send for a copy.

For more than thirty years the name of Rowles has been identified with good reliable school equipment. Every article we sell has been correctly designed, properly constructed and thoroughly tested so that the purchaser is assured of full value for every dollar invested. If your School Board contemplates buying new equipment it will be to their interest to obtain a quotation on our line either direct or through a local dealer or distributor.

COLUMBIA SCHOOL SUPPLIES—INDESTRUCTO STEEL EQUIPMENT

IMPORTANT NOTICE—

Reduction in Freight on Indestructo shipments the freight will be cut ⅓ to the points, making the freight on Indestructo us quote you delivered prices.

More than 100,000 sold in 1927 to 976 cities and towns, scores of which sent repeat orders. Send for list.

COLUMBIA SCHOOL
INDIANAPOLIS,

Made to fasten to floor without charge if so ordered

Code Word Indestrucstand

331 with drawer.

S330 with drawer, but without body.

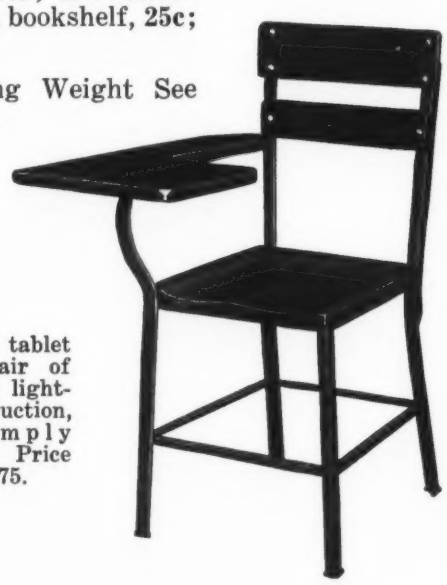
STANDARD INDESTRUCTO ADJUSTABLE MOVABLE DESK

Seat of standard scroll shape. Saddled seat will be furnished on request. Top of standard rectangular pattern with flush top inkwell as shown in sizes 0 to 4. Top is adjustable in height, in tilt, and has an adjustable leveling device. Wood parts are of hard maple, walnut finish. (Oak will be furnished on request.) The steel parts are dark olive green. The feet are shod with gilding domes, or upon request will be equipped with floor fastenings as shown. Steel book box as shown.

No. 330-1 and 2 @ $5.65; No. 333 and 4 @ $5.50; No. 334 and 5 @ $5.35.

Model S, without drawer bottom or panels, known as **S330, S331 and S332 @ $5.35; S333 and S334 @ $5.20; S335 and S336 @$5.05;** B Drawers **@ $1.15** extra; bookshelf, **25c**; panel, **20c.**

For Shipping Weight See Opposite Page.



No. 461 tablet arm chair of slightly lighter construction, but amply strong. Price each $3.75.

COLUMBIA INDECTRUCTO TABLET ARM CHAIR
No. 420

Above is an illustration of the Columbia Indestructo Tablet Arm Chair. The frame is of steel, arc welded to prevent breakage, and is finished in olive green. Back slats are of quartered oak, while the seat and arm are of plain oak or maple. Price of each $4.25; with perforated shelf $.25 extra.

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Desks and Chairs. In less than car load East and ½ to the Western and Southern furniture less than on cast iron desks. Let

More than 60,000 sold in 1926 to 694 cities or towns. Send for list.

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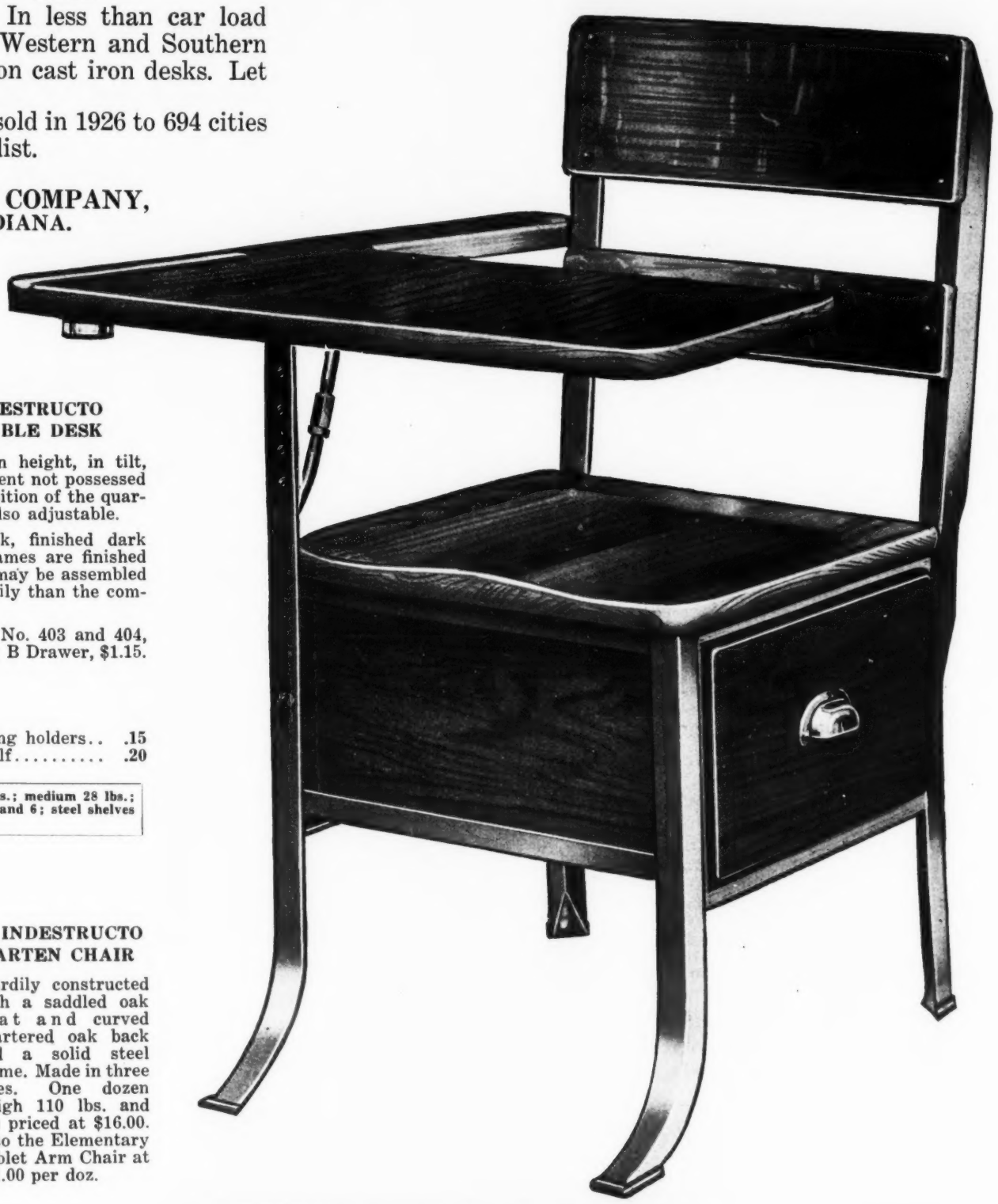
INDIANA.



THE COLUMBIA INDESTRUCTO ADJUSTABLE MOVABLE DESK

The top is adjustable in height, in tilt, and has a leveling adjustment not possessed by any other desk. The position of the quartered oak back slats are also adjustable.

Wood parts are of oak, finished dark golden, while the steel frames are finished olive green. These desks may be assembled more quickly and more easily than the combination desks.

No. 400-1 and 2, $4.95; No. 403 and 404, $4.80; No. 405 and 6, $4.65; B Drawer, $1.15.

Inkwells with steel swinging holders.. .15
Back panel above bookshelf..... .20

Shipping Weights—Large 34 lbs.; medium 28 lbs.; small 24 lbs.; drawers 7 lbs. 6 and 6; steel shelves 2 lbs.; 1½ and 1.

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COLUMBIA SANI-STEEL ADJUSTABLE DESKS COLUMBIA SANI-STEEL ADJUSTABLE DESKS

ALLOWS
FREE SPACE
FOR
SWEEPING

Made in three sizes
Large
Medium
Small

No. 600, illustrating
Size "A" Desk, Open
Box Style

THE "ARLO"
ADJUSTABLE PEDESTAL DESK

The "Arlo" Adjustable Pedestal Desk is our latest contribution to modern hygienic schoolroom seating. A beautiful desk, both in design and finish, it is absolutely sanitary—exceedingly well adapted to the varying needs of any classroom and guaranteed to withstand the strenuous requirements of every type of classroom service.

The pedestal is made of semi-steel, constructed to give greatest strength at the points of greatest strain. The broad, massive base is cup shaped and when screwed to the floor will never pull loose.

The "Arlo" Adjustable Pedestal Desk will last a lifetime; has steel sides and back and the top is made from maple or birch, finished in Arlo Brown (American Walnut).

Adjustments are simple and easily made. Book box chair seat are independently adjustable. This is a distinctive feature and makes it possible to adjust "Arlo" desks to meet the individual requirements of each pupil.

The "Arlo" Line includes The Arlo Adjustable Pedestal Desk with Study Top, The Arlo Non-Adjustable Pedestal Desk, and the Arlo Pedestal Tablet Arm Chair.

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Flexibility of adjustments assures each pupil being properly fitted, insuring correct posture and real comfort.

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Office and Factory **Arlington Heights, Ill.**

CAST IRON IS STILL CAST IRON—

When you are offered a malleable desk at $5.50 each—or semi steel that is 75% steel and 25% iron—it's time to smile knowingly.

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Our repeat business is delightful!

We have no mysteries—no secrets—just good sense with good judgment to build good desks.

We dare to talk real seating facts because they're built into the entire line of Welfare School Desks. A Missouri customer says: "The desk sold itself."

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Welfare Seating Company

Waukegan, Illinois.

READSBORO CHAIR COMPANY
READSBORO, VERMONT

"READSBORO" FURNITURE — QUALITY and SATISFACTION

PORTABLE ASSEMBLY SEATING

SINGLE FOLDING CHAIRS

TABLET ARM CHAIRS

KINDERGARTEN FURNITURE

No. 1019

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CLEVELAND, OHIO, 406 Prospect Bldg.
HOUSTON, TEX., 1112 Preston Avenue
KANSAS CITY, MO., 1515 W. Ninth St.
LITTLE ROCK, ARK., New Terminal Warehouse
MINNEAPOLIS, MINN., 708-10-6th Ave., So.
NEW YORK CITY, N. Y., 1123 Broadway
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TRENTON, N. J., P. O. Box 507

Send for bulletins, prices, and full information.

Royal Cafeteria Chair

Pattern No. 9

Royal Cafeteria Chairs are built to stand the hard usage that its use requires.

Besides being so staunchly built, they have an attractiveness seldom found in metal chairs. The legs are graceful and the bracing of the legs creates a handy hat rack.

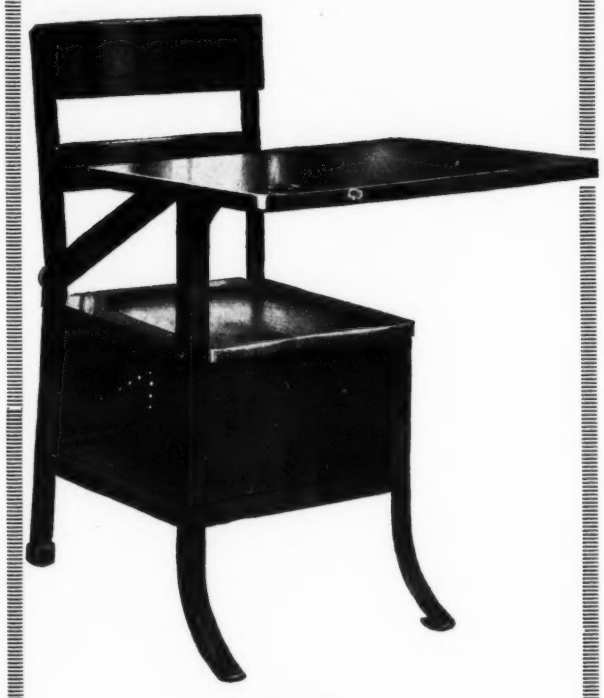
The back is very comfortable and several choices of seats and seat coverings are offered—The price is exceedingly low for a chair of this quality.

Metal frames are supplied in either Oxidized Copper or choice of many oven-baked enamel finishes.

Every Royal Its Own Salesman

GUARANTEED FOR 10 YEARS

Royal Movable Desk



Pattern No. 35

The Royal Incomparable Movable Desks and Tablet Arm Chairs are attracting universal favorable attention everywhere. When extreme strength and durability of double riveted construction is combined with perfect finish and neat design, as has been done in these handsome chairs, there is only one question left to decide before purchasing—and, strange as it may seem, the prices are very low, despite their many superior qualities.

A Comparison Is All It Asks

GUARANTEED FOR 10 YEARS

Royal Folding Chair

Pattern No. 126

For years the name "Folding Chair" was synonymous with "fragile" and until the advent of Royal STEEL Chairs, were probably rightly nicknamed.

Of the thousands of these chairs in use in Schools, Stadiums, Baseball Parks, Athletic Clubs, Lecture Halls, Churches, etc., all over America, their durability has been so pronounced that it is possible to guarantee them against breaking or coming apart without danger of loss or dissatisfaction. Supplied in either olive green or walnut oven-baked enamel finish and with Comfortable Saddle Shaped Steel Seat, Wood Slat Seat or Leatherette Upholstered Seat.

Staunch Service Builds Confidence

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ROYAL METAL MANUFACTURING CO.

"Metal Furniture Since '97"

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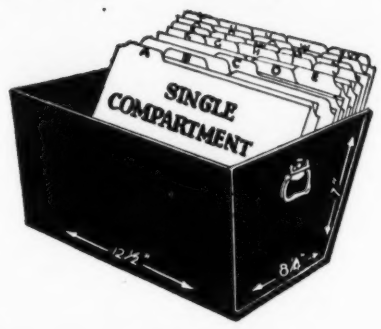
Please send me information regarding Cafeteria Chairs ☐ Movable Desks and Tablet Arm Chairs ☐ Folding Chairs ☐ Domestic Science and Laboratory Stools ☐

Name..... Address..... City..... State.....

Save This Advertisement and Get a $3 *Merchandise Present Free*

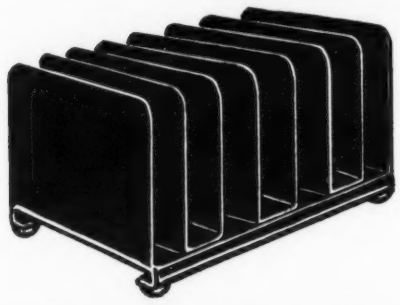
"Alpha-Desk-Tray"

For Sorting Letters and Desk Work Organizing of Every Description in All Departments



"Alpha-Desk-Trays" are built in 2 designs, closed side and open side models, ranging from 5 to 18" deep, front to back, and in all standard widths of business forms.

Vertical Mail and Order Distributors



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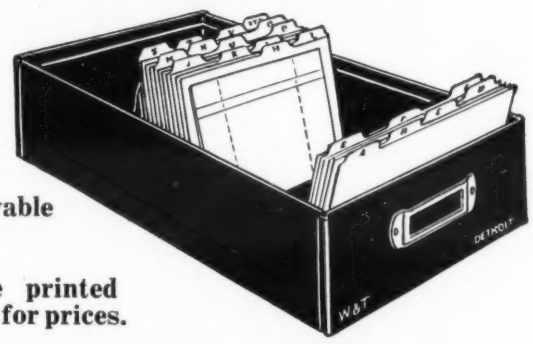
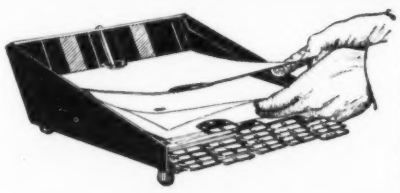
"Alpha-Posting-Trays"

Made from six to sixteen inches in width and in all heights. Both in twelve and eighteen inch deep, from front to back, with and without removable covers.
Prices on request.
Please send sample printed form, when inquiring for prices.



"General-Purpose-Desk-Tray"



The Latest Creation

The "GENERAL PURPOSE TRAY" is operated from all directions on your desk; from the front, right or left; or from your desk drawer, it is the best work organizing device, also the best sorting tray.

ACT NOW!
MAIL IN COUPON TODAY—!

☞ Pin this Coupon to your letter and mail in today ☜

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320 Beaubien St., Detroit, Mich., U. S. A.

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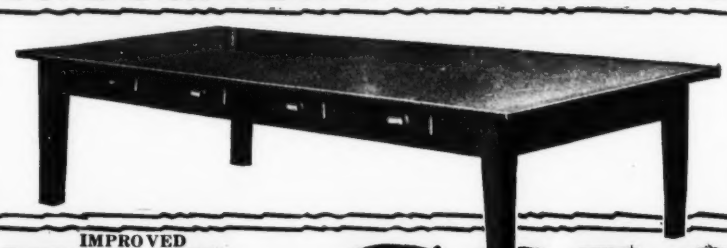

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ELGIN SCHOOL TABLE

For Cleaner School Rooms

Keeping schoolrooms clean and sanitary insures healthier pupils—fewer epidemics—greater progress. First and second grades that use **Elgin School Tables** know that their rooms can be kept spotlessly clean all the time, for these modern tables can be moved around as desired, the floors underneath them may be thoroughly scrubbed and every crack and crevice of the floor can be reached and cleaned.

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There are many other features about the **Elgin** that will appeal to you, as for example its application in the modern method of group instruction.

Send for free booklet, "Seating Efficiency."

RINEHIMER BROS. MFG CO.
ELGIN, ILL.

The Chair That's THERE!

FOLDS FLAT

Doesn't
RATTLE
Another STRONG Factor

Because the TUCKER'WAY is so well built, it is as strong as an ox, and won't weaken under a heavy load—it won't rattle, nor cave in, nor tilt, nor break through if you stand on the slats. It stands abuse and the roughest of service. Easy to open and close—with your foot.

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Built of Beech—uniform in color—dipped in waterproof varnish. You can leave it in the rain and it won't turn white, nor warp—being built entirely of wood, it **won't rust.** No metal stampings to get loose, come off, catch one's clothing, pinch the fingers or the seat. Built for comfort as well as speed; built for weight as well as wear. The TUCKER'WAY is the ideal assembly chair—sold singly or in sections. Also made in Junior size for tiny tots; and in a variety of colors.

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Write for sample chair and inspect it yourself. Secure quantity prices. Use the coupon!

Tucker Duck & Rubber Co.
Fort Smith, Arkansas

Send Sample Chair and Prices
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Address.....
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E-17

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Standard Model
MODEL No. 70

FOLDING CHAIRS

Built to Last
and
To Give Comfort

Model No. 70 also made with Wood, Leather, Velour or Tapestry Seat and Back.

Model No. 25 also made with Wood, Leather, Velour or Tapestry Seat.

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MODEL No. 25

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Manufacturers of
Coat and Hat Racks
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Service Stands
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SPECIALISTS IN RUBBER AND LINOLEUM TOP TABLES.

STYLE No. 650
Sizes
30"x48" 30"x72"
30"x60" 30"x84"
30"x96"
Standard Height 30"

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Whitewood or Solidwood Tops.

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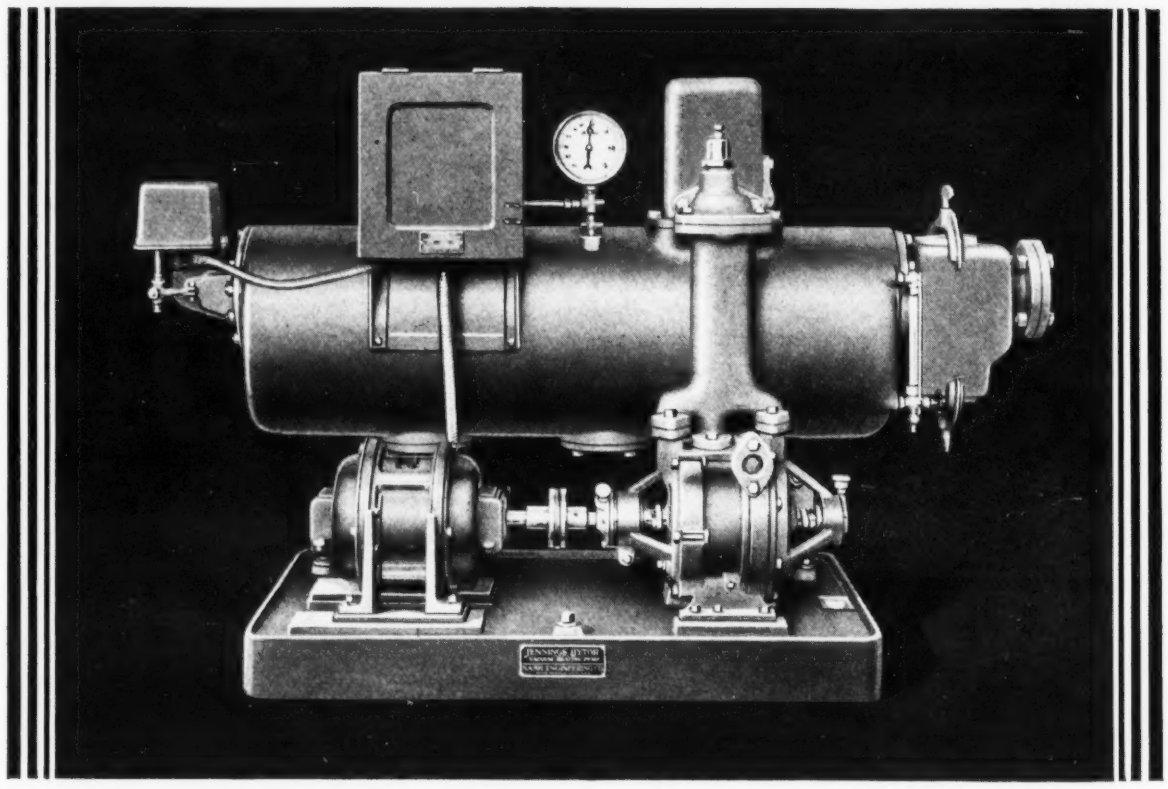

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As the daily records of the janitor-engineer show, the Jennings Pump is never tardy in removing the condensation and air from the return line of the vacuum heating system. From the monthly operating reports, the building superintendent knows that Jennings exemplifies high efficiency at substantial fuel economies.

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RETURN LINE AND AIR LINE VACUUM HEATING PUMPS ∞ CONDENSATION PUMPS ∞ COMPRESSORS AND VACUUM PUMPS FOR AIR AND GASES ∞ STANDARD AND SUCTION CENTRIFUGAL PUMPS ∞ ∞ MARINE PUMPS ∞ ∞ SEWAGE EJECTORS ∞ SUMP PUMPS ∞ FLAT BOX PUMPS ∞ HOUSE SERVICE PUMPS

Jennings Pumps

THE NASH ENGINEERING CO 11 WILSON ROAD, SOUTH NORWALK CONN.

THE AMERICAN

School Board Journal

A Periodical of School Administration

Published on the first day of the month by

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Some Casual Americanisms

AN American traveler meandered one day into the city of Munich, Bavaria, toward a group of women tourists who, gathered about the famous Wittelsbacher fountain, were admiring its pretentious sculptural figures.

The traveler as he came nearer also became curious as to their nationality. They were stylishly dressed and might have come direct from Paris, London, Rome, or Berlin. Their garments did not, however, disclose their racial origin. But, he overheard some of their comments on the fountain which did.

"Isn't she a beaut!" exclaimed one of the ladies as she looked up at one of the marble goddesses.

"I'll tell the world she is!" replied the other with enthusiasm.

The traveler's curiosity was appeased. He knew now that here was a group of American ladies who did not hesitate to express themselves in the vernacular of their native land.

There is something in the manner and speech, custom and usage, and in our mode of life that is typically American. But, there are also in our country agencies and institutions that have grown out of new-world conditions and that are not duplicated anywhere else on earth.

The board of education, as exemplified in city and village, county and state, may have its counterpart elsewhere, but nowhere does it enjoy the independence and democratic self-assertion that it enjoys in the United States.

And, with equal truth, it may be said that the SCHOOL BOARD JOURNAL is the outgrowth of a plan of school administration, which is not only essentially American, but which is not surpassed as a medium of service anywhere upon the globe. The plan of administration constitutes the great recruiting agency for that citizenship upon which the perpetuity and wellbeing of the great Republic rests.

—THE EDITOR.

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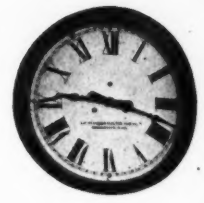

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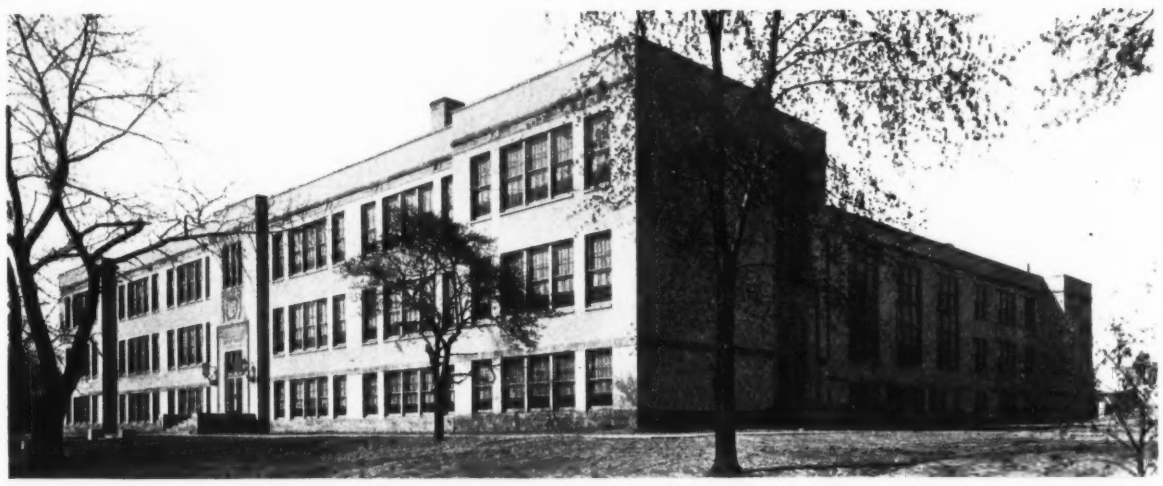

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"MAKES EVERY MINUTE COUNT"

THE AMERICAN
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SCHOOLMASTER
EDUCATION
TELL ME WHERE TO GET IT!
LEGISLATOR
THE SCIENCE OF TAXATION
DEMAND OF THE SCHOOLS FOR MORE ADEQUATE FINANCIAL SUPPORT
THE QUESTION IS TO ADMINISTER PRESENT TAX LAWS WITH GREATER EQUITY OR TO FIND NEW TAX SOURCES
AMERICAN SCHOOLBOARD JOURNAL
Harold Heaton

A New Job for the Educator!

Getting Full Values in School Supplies

Raymond W. Nash, Superintendent of Schools, Ticonderoga, N. Y.

School-supply buying is a big job, if well done. A great deal of time and care ought to be taken to see that *it is well done,* because every year many thousands of dollars of much-needed school funds are wasted as the result of careless and unbusinesslike purchasing. I am listing a few guiding principles which, if followed, will put the business of school purchasing on a more economical and systematic basis.

Concentration of Responsibility in One Official

To concentrate authority and responsibility, there should be only one purchasing agent in a school system. This is not the case in many of the smaller school districts; and even in some of the larger school districts, we find everyone taking a hand at buying, from the janitor up to the superintendent of schools. No one should know better than the superintendent what is needed, nor should anyone be more able to tell whether it can be afforded. The superintendent who does not have a controlling hand on the money that is spent will soon have financial questions to answer, because taxpayers and boards of education in the final analysis, hold him to account for such matters. Certainly, for the sake of good business, all purchasing should be done through a central office, which in the small-city system is the superintendent's office.

Determining the Buying Season

Good merchants do the bulk of their buying at set times during the year, when they know best what they must buy, when prices are lowest, and when it is most convenient for them and the concerns from whom they are buying. Schoolmen may well learn from business men how to buy to advantage. A definite time during the school year should be determined upon as the school-supply buying season. From April 15 until the middle of July is the most convenient season for the small school district, because it is not until late in the spring that teachers, janitors, and other employees know best what supplies will be needed for another year. Orders received by July 15 give supply houses sufficient time in which to deliver, before the opening of school in the fall. However, the earlier the orders are placed, the better will be the service.

Purchasing Supplies in Quantities

A great many school officials err in not having a regular buying season. They buy as they go, and if they happen to run short, they fail to operate. Such a procedure is costly to say the least, because it is neither efficient nor economical. Every school that runs according to a budget scheme knows just how much of this or that item must be bought. Buying supplies in large quantities is practically always economical, if the articles bought are no more than pencils, because the price is lowest and the discount, if one is allowed, is generally largest.

Establishing an Annual Inventory

The best starting point for a successful buying plan is a yearly inventory of all school equipment, supplies, and other school property. Early May or early in the last month of the school year, is the most convenient time for teachers to assist in such an undertaking. After completing the inventory, it is not difficult for each teacher, janitor, and other employee to estimate and hand in a requisition for the supplies and materials needed for the next year. The superintendent may now check the lists according to his best judgment and investigate any questionable items or amounts. A comparison of the inventory with the inventories taken in previous years will disclose excessive stocks. Similarly, a check of the requisitions with the amounts purchased during the previous two years will indicate the tendency of some teachers to "pad" their requests, and the inclination of other teachers to economize a bit too sharply. What kind of supplies, and the amount to be purchased, should now be reasonably known.

The Test of School-Supply Purchases

I wish to add a note of warning at this point. No school can afford to buy anything that does not justify itself educationally and economically. Some purchasing agents are inclined to buy everything that appeals to them, or that some neighboring school has purchased. A salesman came to me some time ago, and showed me a set of books devoted to agriculture. It was a fine set. Every school located in a farming community should have one in its library. The salesman told me that one of our neighboring schools had purchased a set. I wondered at this because our neighbor is located in an industrial community having no agricultural interests. The books cost the school district about $100. The question is, was this judicious buying? I cannot agree that it was, yet all of us have made such mistakes as this.

Establishing a Policy in School-Supply Purchases

Now for the actual buying: Some school superintendents feel that they have but little time to devote to purchasing problems, and because of this, order from the same old concern which has always sold to them; others are simply careless and buy without further consideration from the first silky, genial salesman who happens along and assures them that he has not only the best, but the cheapest line of supplies to offer. Still, other school-supply purchasers buy only the lowest-priced goods obtainable, or allow companies to bid on the amount of supplies they expect to purchase, without specifying any definite standard of grade or quality. Any one of the buying procedures described is bound to prove costly to any school system. As a substitute for such careless methods, I am outlining a plan of buying which takes but little extra time from the busy executive. The following are the main steps in the plan:

First, standardize all school supplies; that is, as nearly as possible, determine for each item the quality, dimensions, grade, etc., that will best adapt it to school use. Take drawing paper as an example. It comes in various sizes, weights, and grades. Most of us would agree on the size and weight of drawing paper to buy for this or that purpose, but many of us would differ as to the grade we would select. If, however, a grade of paper satisfactory to teachers and pupils has been determined, it is not difficult to get samples and bids that will make comparisons possible and insure economical purchases. Standardization in the small school district is quite possible if some of the easily available helps are used. Periodic revision of standards is as necessary as is standardization itself.

Experienced buyers agree that the buyer saves if he buys a good quality of merchandise. Their motto is "buy the best at the lowest figure," and I have always found it an excellent plan to follow. It is a mistake, however, to be led to believe that the highest-priced article is the grade which is the best selection. Liquid soap sold by one firm I know of is an example of this. This house offers several grades of soap at prices ranging from 75 cents to $1.20 a gallon. To date, I have been unable to discover any difference between the 90 cent and the $1.20 grades, nor have I been able to secure an explanation of the difference in price from the company.

The purchaser of school supplies should not hesitate to ask for samples, if in doubt about the quality of goods to be selected. Manufacturing firms are only too glad to send samples and even to send representatives to demonstrate the goods they have for sale.

The Value of Competitive Bidding

When the quality, size, and amount of supplies has been determined upon, the next logical step is to ask three or four well-known companies handling each particular supply to bid upon the quality of the goods needed and the amount it is expected to buy. I find it convenient to keep an alphabetically listed notebook of all common school supplies. Each item of supplies has a page and here are listed the names of the reputable concerns which handle each particular article. This saves time when I am ready to select firms from which I wish to receive bids.

When the bids from the various manufacturing concerns are returned, they are examined, and a decision is made as to the firm which can furnish the goods at the lowest figure. It is essential that the order be sent as soon as possible. It is well to keep a copy of the order

(Concluded on Page 153)

MRS. COOLIDGE RETURNS TO THE SCHOOL WHERE SHE WAS ONCE A TEACHER.
Northampton, Mass.—The "First Lady of the Land" with some of the children of the Clarke School, Northampton, Mass., where she taught before her marriage. © Stahlberg

Pedagogical Palliatives

Harlan C. Hines, Professor of Education, University of Cincinnati

In a previous issue of the SCHOOL BOARD JOURNAL[1] I tried to show, by putting the cards on the table, why it is so difficult to get young men to come into teaching as a lifework. Now, at the pain of some displeasure, and before any attempt is made to present a constructive program for getting them and keeping them in, I would like to state frankly what I think are some of the reasons for those already in who are trying to get out. In other words, I shall raise a question that seems quite pertinent, Aren't we going a bit too far in expecting any human to keep abreast of all the changes taking place in educational procedure as a result of educational experimentation? And if I, at the same time, seem to tread heavily upon some of the carpets of reform we have thrown over the pine floor of past experience, it is only because, in this article, it has been necessary to "open a new deck," and I always walk around the table two or three times for good luck.

Let me state at the outset, that I think the "science of education" has teaching so firmly by the collar that it is going to be a hard struggle for the latter to shake loose, but that I am convinced also that it will free itself, at least far enough to turn around, and that that day is not so far in the future. For this so-called "science," I have no doubt, we are indebted considerably to Herbert Spencer who, in a sudden burst of speed, once announced that a knowledge of science is of most worth to him who desires to be described as educated.

The Beginnings of the Science of Education

Now, if science *is* the knowledge that is of most worth in the education of youth, all subject matter is sure to be tinged with it, and all investigation and research to be at least pseudo-scientific in character. What would be more natural, then, than that educators—the professional students of the broad field of education—should attempt to make *their* work more scientific? But where to begin, how to go about it? G. Stanley Hall, at Clark University, found a way. He evolved a science of his own, afterward known as paidology—the scientific study of the child by specialists trained for that purpose. To Hall we are indebted for the courses in child study to be found in any present-day normal school or college of education. Then, at the University of Pennsylvania, J. McKeen Cattell improvised brief tests of intelligence, later to be used by educators in separating the intellectual sheep from the borderline goats. Although intelligence tests did not begin to play an important part in American education until about twenty years later, the indirect results of Cattell's early experiments may be seen anywhere. There is hardly a child in the public schools today who has not been subjected to an intelligence examination. But, the man who gave the "science" of education its little game of educational "tag" was Sir Francis Galton, another Britisher, who presented to American students of education, first through the professors at Columbia University, the method of the questionary, statistical method, and a method for studying hereditary traits.

Most of this happened during the mauve decade and the turn of the century, and my purpose in mentioning it here is neither to indulge in reminiscence nor to (in mentioning British influence) align myself with William Hale Thompson. So let us hurry on. From 1915 forward, wildly advanced by some of the newly trained berserkers in educational theory and practice, the "science" of education, more

than any other science, began to make itself felt wherever youth were forced to gather for purposes of formal training. Child study, intelligence testing, questionary, and statistical method, to say nothing of the many broader school surveys made by educational experts, became such a part of educational procedure that little thought was given to teaching as an art, and less to the inspirational guidance of the child in the classroom.

The old-fashioned pedagog, even less widely read in matters educational than Herbert Spencer, was amazed at the changes going on about him. He tried to laugh it off, and came to define an expert as "somebody from out of town." He had few champions, nor was there anybody to speak for the artful teacher or the artless child. Finally, however, in 1923, having previously launched a virile attack against the ill-timed and promiscuous use of tests of intelligence, William Chandler Bagley, of Columbia University, braved the wrath of some of the benchers in his own institution, and came to the defense of both the teacher and the child. "If a child in the modern school," he stated, "ever gets any factual material, he'll have to get it through bootleg channels."

Signs of Reform From Within

It has taken five years for Bagley's warning to disturb the thinking of some of the "deans of education." But this should not be thought unusual, since it took 66 years for Spencer's philosophy to reach its highest peak in the field by which it was appropriated, or, to keep the terminology, "hijacked." Now the pendulum has begun to swing the other way. On my desk are three letters from deans in widely separated institutions, asking for a list of courses that I, among others, think should constitute the minimum essentials in the training of teachers. "It is my personal opinion," writes one dean, "that we are giving far too many pedagogical courses for teachers and are crowding out the subject-matter courses they need so much. Here, we plan to trim down to the fewest courses possible and make them as strong as is in our power."

It has been stated that, if a student might register for all the courses now offered in one of our larger universities, it would take him 72 years to complete them. And I am sure that if he attempted to take all the courses offered in one of several teacher-training colleges, he would have to resort to surgical rejuvenation. One of the newer colleges of education a few years ago offered 82 courses, the titles of 41 of which began with the words, "The psychology of . . . " Another, but larger, college is accused of offering but one course under 300 slightly differing but fascinating titles.

In drawing from the sciences, pedagogy drew heavily from psychology, a study in itself not too firmly rooted as a science. This was natural, for psychology has to do with the human mind, and it is the human mind that teachers are called upon to train and direct. They must be familiar, in an elementary way at least, with its variableness and its irregularity in reaction. They must know, it was felt, the extent of individual differences in children and, to gain this knowledge, they must employ the tools of psychology, intelligence tests, and the methods of mathematicians—the average, the deviation, and the correlation. But the more conservative of educators, in being won over to psychology and statistics by the realtors promoting these respective subdivisions, little realized at first that they would eventually be subjected to a rack-rent that would offset any dividends in their educational investment. Now that they know their laws of probability, they are at the business of trying to swing back the pendulum. But, it will never go completely back. The arc it describes is, as the statisticians say, skewed at the upper end.

Teaching Cannot Become Purely Scientific

I think that teaching may now be spoken of as a profession. There are those who still contend that it is not, just as they rail at our supposed "science" of education. But, just as there are some practices out-cropping from this "science" that have come to stay, so are there signs of professional life in teaching that will not become moribund. Time was, of course, when anybody could teach school, but, also, anybody could preach, practice law or medicine; dental work was performed by the village barber; and newspapers were edited by persons who were quick on the draw. But men like Spencer, Huxley, Eliot, and their followers, succeeded in changing all that. As schools and the means of education were extended to greater and greater numbers, better service was demanded from professional workers, and the lawyer, doctor, dentist, and clergyman were forced to secure certificates of satisfactory training before they could practice upon or preach to an increasingly erudite populace. Yet, because each, in its own way, involves the human equation, the work of no one of these professions has become purely scientific.

So it is with teaching. As a profession, it is no less worthy of commendation than the other agencies attempting to preserve the individual from the inroads of disease, decay, and ignorance; but it can never become purely scientific for the reason that its subject matter, strictly animate, will not stay put. And there is no fortification in the knowledge that even inanimate objects are subject to natural change or that science, as such, offers us no philosophy that will articulate the life we live with the life to come. Teaching, to be effective, must not only be *scientifically* sound, using the term in its broadest sense; it must inspire. And the inspiration that science offers is as earth-bound as a clay pigeon.

The present-day teacher, thoroughly trained in "scientific" pedagogy, should have the right to be described as artful-scientific in method and manner. He appears, or *should* appear, as a specialist who, through cooperation with and service to the general public, helps the individual adjust himself to new situations. He comes in contact with ignorance he must dispel, with doubt he must overthrow or encourage, and with hope he must strengthen. This should make him at once a leader and a guide in phases of development that are at the same time temporal and spiritual, and it *would,* if that which he professes might be put into practice calmly and sanely, without too much baiting by self-appointed matadors.

In the early days of the American schools the obligation of keeping the school child physically, mentally, and morally hygienic devolved upon the physician, the dentist, and the

[1]May, 1928.

preacher. But today, the teacher has become more precisely than any other professional worker a public servant, and has had foisted upon him or her the heavy burden of getting the child ready for good citizenship and vocational adjustment, or for professional leadership. He or she has been compelled to take over many duties the public did not want in the matter of rearing youth. It will readily be seen that this has made some training in science mandatory and not only calls for certain lines of specialization, somewhat comparable to those found in medicine, law, engineering, etc., but demands the setting up of state requirements for certification before teaching is undertaken.

Persons engaged in other professional pursuits, having become familiar with the training of the teacher, have been much quicker to recognize the professional standards in teaching than has the man in the street. If the latter wants medical, dental, or legal aid, he is satisfied to place his case in the hands of somebody specifically trained to give him the best service, but the education of his children, which, if well done, in the long run would make the other needs less imperative, he is willing to intrust to anybody and expects to get favorable results.

The reasons are many and need not be dwelt upon here, but he who runs knows that the teacher has seldom sat in the seats of the mighty, and far too frequently has nothing to "give out to the press" that would make him or his task worthy of emulation. His existence, if not cloistered, has been diaconal in character but, when he has become known under the title of "educator," he has not necessarily been confirmed as one entirely innocent of the world. Men teachers may at times hesitate to call their souls their own, but the only thing that keeps most of them from being completely "human" is the fact that they are supposed to set an example for those under their instruction. Beyond this, they are on a plane with men in other professions, wise men and fools wherever we turn. That a man selects teaching as his life-work *may* stamp him among the ill-informed as juvenile in his outlook, but he may grow nodules of knowledge that have more of a "kick" than all the white mule or jackass brandy that has come over the border. If he adheres to his professional standards, he will never be "strong for ballyhoo"; it is as unprofessional in his work as for a doctor to solicit patients, or a lawyer to search for clients in the city streets.

What is a Professor of Education

Nor is the professor of education, as a type, intumescent. As in all walks in life, a little learning is a dangerous thing and it never fails to produce impostors and charlatans. In education these are the touch-and-go propagandists, the aforementioned berserkers who, with a slide rule in one hand and a book on research in the other, clamor for this and shout for that so loudly that we do not know half the time where we stand. Those of us who are busy with our knitting, however, are deep in a work so complex that it is not likely to be clearly comprehended. We have for our task the study of the whole field of education, from the nursery school to the graduate college, and we are called upon to make recommendations for possible changes. Few know beforehand how much this takes of fortitude and delicacy, and some who enter in with optimism find themselves inadequately prepared to see it through. On the other hand, some, as a result of their years of close contact with the study of the vexing problems of education, are elevated to positions exacting administrative responsibility, always premised on a knowledge of how to go about gaining the support of countless factions that must be appeased and satisfied before an institution of learning may count itself even locally important.

HARLAN C. HINES,
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Now, most teachers who have succeeded without training in pedagogy probably feel that they were "born to teach" and that what they have missed has not been needed. Yet, certainly, a careful study of such time-tried subjects as the history of education and a deliberate consideration of the methods of teaching advocated in the more conservative of our colleges of education would have made them stronger still, even though it did nothing more than show them what *not* to do in the classroom. For no teacher will succeed today, particularly in the lower school divisions, who depends entirely for guidance upon original endowment, or upon the art of imitation. And it is here that the professor of education finds his most important task—training prospective teachers away from mistakes of the past and into technics of teaching that are meant to be most effective in instructing the younger generations.

Teaching, as an organized profession, has made its greatest strides during the present century, and colleges for the study of education are so new that they have established no traditions of importance. The earliest of these training centers owe their existence to the presence of men of strong character who, at the same time, were excellent teachers who so convincingly expounded their philosophies of education that students were *im*pelled rather than *com*pelled to gather about them. But, the new laws for certification of teachers make training in pedagogy mandatory, and this has meant an enormous increase in enrollment in teacher-training colleges, at the same time creating a demand for well-prepared instructors for those colleges. This rather rapidly developing condition is the *raison d'etre* for the ubiquitous professor of education.

About the only difference between a professor of education and a professor of anything else is a difference in subject matter taught. The meanest man, the man with the worst table manners, and the biggest fool it has been my misfortune to meet were professors, but not professors of education. The fact that they happened to be professors of academic subjects does not necessarily imply that *all* professors of academic subjects are mean, or crude, or dumb. They are, in their way, doing the best they can, under the system we have adopted, to weather a very trying period in American education. The overcrowding of the classrooms by students who are not yet intellectually dry behind the ears has given them a white man's burden. But this is no more true in the academic fields than it is in the colleges of education where the importance of the training problem is not to be minimized since the laws compelling teachers to pursue courses in pedagogy have brought in many students.

You see what I am getting at. If some of the men in teaching are being driven out by exploiters, it should be understood that the latter compose but a small and noisy percentage of those whose business it is to get teachers ready to teach. And the truth is, professors of education are drawn from all walks of life, the major requirement being that they shall have had at least as much professional training as their academic colleagues. In most institutions they have had more, but they are not, typically, given to parading it. Where they do, they are subjected to such merciless criticism by the teachers they are attempting to train that they become stamped as professionalized picaroons.

Voices from the Tomb

As shown in the previous article cited, men have been leaving teaching so rapidly that we are face to face with an emergency, particularly in certain sections of the country. If this condition is continuously augmented, we shall presently be up against a plight, and it is high time that we find every possible cause. My theory is that they are unwilling to exist on a low wage, if they are required to tax every ounce of mental energy to keep up with the changes recommended by professional mitigators. But, let me be more specific. During the past few years the public schools have been gratuitously presented with what, for want of a better term, we may class as pedagogical palliatives. What I mean by a palliative here is the hasty substitution of one plan to cover up the weakness of another. Highly differentiated curricula, countless methods of presenting and supervising subject matter, ostensibly complete standardization through the use of intelligence and subject tests, prevocational and vocational guidance, and pressure upon teachers to conduct experiments and engage in so-called scientific research have, in various ways, so diversified the work of the classroom teacher and the training of the children in the schools that, for the children themselves, immediate adaptation to life outside the school has become next to impossible—they are "learning more and more of less and less"; and the conscientious men teachers have grown so discouraged over the outcomes that many have thrown up their hands with a high I.Q., meaning in this case, "I Quit."

Now, as implied, not all educators are willing to indorse these touch-and-go methods of putting the American school child through his training paces. Some of the deans of education will not permit their own children to enroll in experimental schools affiliated with their colleges. And there is some backsliding among the blown-in-the-bottle superintendents who, after waiting ten years for some good to come out of Nazareth, are putting into practice the things that conscience dictates. In Berkeley, California, a return to the old-fashioned methods of teaching English grammar has just been effected. Berkeley, I believe, was the first city to have a junior high school and its plan of school organization has been copied in many other cities scattered over the country. How will this new move to old things affect educational trends?

That is a question difficult to answer. In education we have always been ready to try out new things, because we have limited means for judging the effectiveness of any plan or scheme before it is employed. Then, too, the educational experimentalists are quick to change the setting, for fear the more religious of our educational prohibitionists will raid their little game of thimbleberry. But, of one thing, we may be sure—the pendulum will not make a full return. Even if it did, conditions of train-

ing that seemed to be adequate a generation ago cannot be duplicated now, to meet the demands of the present. And what are those demands?

That question should be put to persons who have railed so loudly against so many things in education that the world at large has come to "think of professors as halfwits." None could give a constructive answer. And the reason for this is that there is no comprehensive reply. Life is moving at too rapid a pace for even our leaders to know what is best for us. All the ordinary man wants at the present time is a little more money, a little less noise, and a little better religion. He has no idea what his son ought to do for a living, nor what kind of educational training affords the best preparation. And he leaves his daughter distinctly alone; she knows, at least, what she doesn't want. No longer is she a violet by a mossy stone, half hidden from the eye; she is not even one third hidden.

The truth is, about all we can hope to do in education just now is to train for adaptation to change. Of course, we can maintain certain minimum standards in reading, writing, arithmetic, and spelling. The average citizen of the future, whether he lives in Keokuk or Kokomo, must be prepared to read the daily papers, to total the monthly bills, to write a few checks, and he must make up his mind whether to spell "instalment" with one or two "l's." Outside of that, he will not have time to avoid split infinitives, or to be much concerned over the influence of British propaganda in history texts. Through the necessity of keeping alert in a mechanical age, he will achieve presently a mental age of 14 as opposed to 13. And the critics of education will go right on criticizing, for this average citizen will be no more adequately prepared to meet efficiently all the tasks to which his hand must be set than were the three old men of Gotham who went to sea in a tub.

The only thing that will restore education to the high pinnacle from which it looked down on the gay nineties is a good hard panic. Children in the schools, from the kindergarten to the classical college, are dimly aware that they will be able to succeed, according to our present adult standards, without intensive labor in the schoolroom. They know, without being told, that times are good and that failures of the individual will be condoned if not offset by subvention; they know that if they are capable of writing a song hit, or an obscene play, the compensation they receive will keep a school teacher for a thousand years; and they know that, when everything else fails, there is still an excellent chance to "pull down a prize" for adeptness in swimming, running, or flying.

When times are hard, however, and both money and jobs are scarce, education comes into its own. It is then a question of the amount of training one is able to secure, and the teacher is looked upon as not only capable and efficient but a friend in need. Education, in itself, has not changed for the better; only the attitude toward it.

Of course, nobody wants a panic any more than he wants to go back to the days of coal-oil lamps, wood-burning stoves, and scratchy slate pencils. Nobody wants to be without work, or, at least, without some means of support. And few people really want an education—the compulsory school law keeps them in to the age of 14 or 16; going to college is at present "the thing to do;" and adult education, except for the training of foreigners, seems to have resulted from a demand by persons tired of movies and motors for something at which they may employ their extra time. But we, as a nation, have morally underwritten education, tied it up with our firmest convictions, and will no sooner let it pass from our realm of things worth while than we will cast a unanimous vote for repeal of the Eighteenth Amendment.

If I were to write here that American education has reached the point where it is founded on fear, Horace Mann would turn over in his grave and William T. Harris would return to this life to insist on greater truth and piety. But, with so many people convinced that the modern school is a snare and a delusion, what other conclusion can be reached? Do we not fear moral and commercial subjugation by nations more intent upon learning? Isn't that to which we have subscribed the most magnificent of all our majestic gestures? If not, if we really believe in education for its intrinsic worth to the socialized individual and to the body politic, and there is so much that is wrong with it, why do we not do something about it? Are we afraid to tamper with it because we expect it most any day, to find a way out of our moral dilemma? We are confronted with a crime record that puts us to shame and, since we can find no other excuse for its existence, we "pass the buck" to the schools. And what is the answer? Another palliative, systematized and standardized moral education, and inspired endowment of professional mitigators in the hands of pedagogical berserkers! They are at it again.

A Swing-Back is Inevitable

Naturally, I do not wish to be misunderstood. American education was originally founded upon democratic principles and is now, at any rate, best suited to the type of government under which we are living. For many years the American secondary school was looked upon as subversive to the spirit of democracy characteristic of the common schools; and the college, originally intended only for those who expected to enter the ministry, was, for a time, accused of harboring none but the sons (and daughters) of the rich. But these charges no longer hold. We have opened the doors of all school divisions to whomsoever will come. And the result is, we are getting a cross section of the entire population. Approximately one fourth of our total poulation goes to school each day. A system of training that affects so high a percentage of Americans should not be looked upon lightly and dismissed with a grimace.

Looked at from the standpoint of material and intellectual equipment, there are too many persons going to school; more, certainly, than can be given any sort of thorough training through individual attention. But, looked at from the standpoint of the nation's good, the enrollment is none too high, provided the results achieved are advantageous.

How to make the results advantageous, how to provide the greatest good for the greatest number is the question uppermost in the minds of those charged with the administration of the schools. And for that there is to be an answer. Like a man who overcomes his stammering by first forming the word with his lips, school systems following Berkeley's lead, may make the bootleggers of factual material highly unnecessary by getting down to elementals in the child's chief tool—his grammar. Then are likely to come slow but sweeping reforms in teacher-training curricula, the elimination of courses that have no proved value in professional preparation. As a result, the classroom teacher will begin to understand what is expected of him or her, and professors of education will no longer flounder through thickets of fruitless theory. Enthusiasm for teaching will return, and a wholesome philosophy, long since dehydrated by the scientific sun will, in the cool and refreshing breeze of returning truth, be condensed into intellectual elixir. And then, on some bright Monday morning, the trash man will come for a load of palliatives, and we shall find ourselves back to first principles.

If these reforms, or others better suited, ever penetrate the smug sheath of satisfaction with which the classical college has surrounded itself, the noise of the shears will be heard in the land, and the padding of courses, heretofore enjoyed as a privity, will become as obsolete as the bustle of bygone days. But, this will come only in the face of proud men's contumely and over the dead bodies of the college deans who, for years without ceasing, have labored to build the closely knit structure now known as a higher institution of learning. There is something even in the word, "higher," that sets the college apart and permits a sort of sacerdotalism in administration which is difficult to circumvent. But, this will not be for long. The junior college will, half unwittingly, apply the Procrustean remedy, and the bootleggers, both real and figurative, will be compelled to search for more willing victims.

I hold no brief for professional education reformers. Like Herbert Spencer, their contact with the schools has been much too limited. Usually they are too raucous, too rasorial to effect the changes needed. And no change that promises lasting good comes quickly. That is why the postwar palliatives particularly, have so recently fallen upon evil days. They are presented gratuitously while we were deep in the problems of getting our peace-time bearings. Imperfectly transparent then, many of them are diaphanous now. Once tested in the crucible of critical analysis, away from the clamor of educational alchemists, a few will be found admissible and will give us a *sort* of "science" of education. But, it will not seem so vital then, for art in teaching, the personal equation, the precept and example, and the yearning for learning will stand out as clean-washed rocks when this high tide of educational experimentation shall have ebbed and gone. The child is the thing! If the men who are thinking of leaving teaching will but hold on a little longer, there are signs and omens that they will come into their own. But more of that later.

Detroit's School Finance Problem

The school system of Detroit, Mich., has a school finance problem which is both interesting and perplexing. If the present bonding system is continued the ultimate burden of debt will eventually be overwhelming.

The school buildings and sites are being acquired at an average yearly expenditure of approximately $6,000,000. The policy of financing this cost has been to sell bonds maturing serially over 30 years. As a result of this borrowing, the city had outstanding on September 15, 1927, over $63,000,000 in bonds for schools. In addition to the interest and sinking-fund payments already made on these bonds, it will cost $85,000,000 more to retire this debt.

If this policy be continued until 1960, the city will then owe $93,000,000, on which $42,547,000 of interest will still have to be paid.

In the meantime, $275,370,078 in principal and interest will have been paid on the school debt. The total cost of the present debt plus this new debt will be, therefore, $410,917,578 to finance school construction until 1960.

Now comes the question of a complete pay-as-you-go plan which is deemed impossible without unduly increasing the tax rate. There a modified plan is suggested. By maintaining the present tax rate for school-debt service, $1.60 per $1,000 of assessed valuation, and gradually

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Are Private Business Principles Applicable to School Business?

M. S. Spears, Business Manager, Evansville, Ind.

Last year, in a magazine article headed "Business in Revolt Against State-Tax Burden" Roger Babson used the expressions "wastefulness of local government" and "what we save at the spigot we waste at the bung." He called for a stop to local folly. Leading editorials and magazine articles are constantly voicing this same opinion. Business men, who pay most of the taxes and who have seen the curve rise year after year, have become alarmed at the situation. System, The Magazine of Business in "The Business Outlook" of August 1927, names the tax burden as the most unfavorable factor in business. It states: "While of course there are bright aspects to the tax situation—better roads and more schools, for instance—nevertheless, the immensity of the tax bill which business is paying undeniably calls for both scrutiny and action."

The school cities and districts naturally come in for their share of the criticism because school costs have steadily increased for several years. In the last ten years, the operating expenses of education have increased over a quarter billion dollars. The net capital outlay has increased nearly a quarter billion in the same period. The alarming feature is that apparently no decrease is in sight. Hundreds of schools are spending yearly an amount of money greater than the revenue they derive from taxation and many are forced to borrow before they receive their apportionments from the county or state. Great numbers of our school cities are not only bonded almost to the limit, but are faced with an enormous annual interest charge for which a tax must be levied.

In many cities, from 10 to 20 per cent of the money received from the school tax is applied on the redemption of bonds and interest on bonds. An astonishing number of these cities, already enormously in debt, are confronted with the need for new and more adequate buildings and equipment.

It is time that school officials begin to look at their business—and it is a business, the biggest in the country—from a private-business angle. To point out that tax money has gone for needed services will no longer satisfy the public. The "worthy object" argument will have to be supported by proof of necessary expenditure. Schools are not intentionally throwing away money, but if it were absolutely necessary to do so, many could spend far less money without injury to the systems. If school officials were operating their own business for profit, they would give more careful consideration to financial problems. Schools are money-spending institutions and not money-making institutions. It is unfortunate that the profits are not yet measurable. If they were, we could better defend our expenditures.

While, since the war, school costs have been mounting, manufacturing costs have been decreasing. Manufacturing plants are not only producing more, but they are improving the quality. There is no doubt about this, but in the minds of some there may be a doubt as to whether a boy, graduated from a high school in 1927 when the per-capita cost in that school was $130 per year, was better prepared for citizenship than a boy graduated from the same school in 1915 when the per-capita cost was $60. No doubt this difference can be explained, but the kind of explanations given for past increases will not do in the future. Any sane business man knows that enormous savings are possible in local governments. They have been possible in private business and they can be made possible in public business.

According to figures from the U. S. Bureau of Labor, the production per man in automobile manufacturing has increased 172 per cent in one year. In petroleum refining, the per-man increase has been 83 per cent; in rubber manufacturing, 211 per cent; and in cement manufacturing, 61 per cent. The president of the San Antonio Drug Co. says: "A few years ago we had 181 employees. Today we have 136. We have 50 per cent more business and $50,000 less expense. We are making more money—our employes are making more." Manufacturers have solved the problem of higher material costs by increasing production efficiency. One office manager told me that he had cut his office force from 75 to 35, and was getting better results and doing less detail himself. This was not done by the use of machinery or equipment. It was brought about by sound business sense, coupled with the knowledge that something had to be done. In business it has been "more efficiency or shut down." In the school world the public always has responded and paid the ever-increasing bill. We, in the school world, are just beginning to "get up against" the real thing; the overburdened taxpayers are going to demand retrenchment and we will have to find a way to provide better schooling for less money.

School people are the hardest to pry loose from traditions. Our schools change slowly. We cling to the conventional. But, with an increased and active interest on the part of business men, experience can be utilized, and the means of economizing will materialize. When the public insists upon its employees being chosen on the basis of their fitness, the most important step in the direction of efficiency will have been taken. The possibilities of economy are unlimited after the merit system has been installed. The preparation of the budget, the purchasing and distribution of supplies, the planning and construction of buildings, the organizing of janitorial and maintenance work, the making of curricula and programs—these are only a few of the possibilities for practicing economy. Every department of the public schools can no doubt be brought to a higher point of efficiency, and real savings can be effected if school officials make up their minds that practically all sound business principles are applicable to the operation of the schools.

ACHIEVEMENT IS THE SUMMIT AFTER THE CLIMB.
Mural painting by F. Luis Mora, N.A., presented to the Boys' Club of Pittsfield, Mass., by Z. Marshall Crane. Photo by courtesy of Grand Central Art Galleries, New York.

Let us be Thankful

A Brief Appreciation

S. Z. Scott, Superintendent of Schools, Greene, Iowa

Of course there are school-board members and school-board members — thousands of them. They are to be found all over this wide country of ours wherever a school may be located. No matter whether it is of the little red variety or one of later vintage, school-board members are necessarily in evidence.

Board members are, truly speaking, of the salt of the earth. They are intrusted with the greatest responsibilities which the electorate can bestow—the cares incident to the education of the nation's youth. They generously sacrifice valuable time and personal comforts without a thought of compensation. Indeed, often they are obliged to see their best, most conscientious efforts criticized adversely, harshly, unjustly, by the unthinking public. But they have become sworn servants of that public and may expect such remuneration.

The Responsibility of School-Board Membership

To attain such positions of responsibility—gifts of our citizens—board members must needs have proved themselves of individual worth. The business of education is the largest business in many communities. More actual funds are involved, much of the tax income is thus expended, and more of the public's interest is concentrated upon this industry, as it were. Irresponsible men and women who have been unable to succeed with the administration of personal affairs are seldom called upon to aid in the administration of the community program of education, for it must be a successful one if possible. The money is to be expended; it must be expended to the best advantage and the best possible returns secured.

To aid in the acquiring of the best possible returns, the board members must secure professional guidance, if the school is large enough to warrant retaining the services of a principal or superintenndent. Otherwise, the full

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Difficulties Between Boards of Education and Superintendents of Schools

An Analysis of the Difficulties Recognized by Superintendents

John Guy Fowlkes, Professor of Education, University of Wisconsin, and
John Preston Buck, Superintendent of Schools, Sour Lake, Texas

The Problem of Educational Administration

The body of information that constitutes the professional subject matter of educational administration is concerned with the organization, servicing, financing, housing, equipping, and direction of educational institutions. But an educational institution may be properly organized, have an excellent staff of professional workers, enjoy adequate financial support, be quartered in the most modern buildings, have every necessary device, and still not function in anything like a completely efficient fashion. Consequently, the practicing of educational administration is primarily concerned with the cooperative stimulation and direction of technical personal service.

Personal service immediately involves an indefinite number of intimate and sensitive personal relationships. Hence, it may be said that the most essential requirement for a successful school administrator is the ability to establish and maintain desirable personal relationships. Certainly, it is true that a superintendent of schools is continuously confronted with the problem of adjusting personal relationships, in order to capitalize on technical service. Personal situations are the background for practically all principles of educational administration. Since such is the case, the need for studying the difficulties between superintendents of schools and boards of education is evident. The following discussion is a report of a study made in an effort to locate some of the difficulties encountered by superintendents of schools while attempting to observe the principles of educational administration.

Method Employed in This Study

In the month of July, 1927, the authors made a list of some ten different administrative situations that had caused difficulty with relation to administrative boards with whom they had worked. Some 25 superintendents who were registered as graduate students in the summer session at the University of Texas, were asked to indicate if the ten situations mentioned above had been encountered by them, and also to add any other administrative situations that had caused difficulty with the boards of education with whom they had worked. The results of this study indicated that the ten difficulties experienced by the authors had been met by a large majority of the 25 superintendents interviewed, and in addition some fifteen other elements of difficulty were added to the original list of ten situations.

This new list of 25 difficulties was presented to 15 other superintendents registered in the summer session of the University of Texas as graduate students, and the directions given to the first group of 25 superintendents were repeated. It was found that about 90 per cent of the group of 15 superintendents had encountered all or a part of the 25 difficulties submitted. In addition to this list of 25 difficulties, ten new ones were suggested. This made a list of some 35 administrative situations that had caused difficulties between superintendents and boards of education from the viewpoint of the superintendent.

These 35 administrative situations that have apparently caused difficulties between superintendents and boards of education were formulated into a series of 35 questions pertaining to principles of educational administration and personal relationships. These questions were sent to 300 superintendents of schools in Texas representing all kinds of schools as to geographical location, type of community, size of schools, and size of community. Replies were received from 178 superintendents, representing communities of the various size groups as follows:

Group	*Size*	*Number of Replies*
I	0 — 2,999	70
II	3,000 — 4,999	42
III	5,000 — 9,999	42
IV	10,000 — 19,999	12
V	20,000 and over	12
	Total Number of Replies.....	178

In the light of the fact that copies of the questionary were sent while many of the superintendents were away on their vacations or were in attendance as summer sessions, this return of nearly sixty per cent seems rather high.

The questionary with the results is presented in the following discussion. It is hoped that the study will be of some assistance in helping superintendents and boards of education to choose and execute functions that lie in their respective provinces.

Questionary Sent to Superintendents of Schools In An Analysis of the Felt Difficulties Between Superintendents of Schools and Boards of Education

The superintendents were requested to classify their answer on the basis of major difficulty, minor difficulty, and no difficulty, defined as follows:

1. A major difficulty is one that is often met and when encountered seriously limits the effectiveness of school administration.

2. A minor difficulty is one often appearing but not serious, one not often appearing but serious, or one not often encountered and not serious when met.

3. No difficulty in this study is a condition in

TABLE I

Percentage of Superintendents by Groups Reporting Each Transaction

This table shows the percentage of superintendents from each group reporting each transaction as a major, minor, or no difficulty.

Difficulties	*Major Difficulty* Percentage Reporting Group*					*Minor Difficulty* Percentage Reporting Group					*No Difficulty* Percentage Reporting Group				
	I	II	III	IV	V	I	II	III	IV	V	I	II	III	IV	V
1. Do you find it difficult to get your board to delegate to you full responsibility for the selection of teachers?	23	14	11	0	17	24	38	33	33	8	53	48	56	67	75
2. Do you find it difficult to get your board to realize that it is best to pay salaries high enough to get the best type of teachers?	40	43	17	17	8	40	29	36	25	25	20	28	47	58	67
3. Do you find it difficult to get your board to leave to your judgment the assignment of teachers?	6	5	6	0	0	8	14	14	0	0	86	81	80	100	100
4. Do you find it difficult to get your board to leave to your discretion the transfer of teachers?	10	2	6	0	0	17	20	17	0	8	73	78	77	100	92
5. Do you find it difficult to get your board to see that no teacher is dismissed without your recommendation?	11	10	8	0	0	33	14	30	17	17	56	76	62	83	83
6. Do you find it difficult to keep your board from being influenced by personal preference in the selection of teachers?	36	23	22	8	8	46	50	44	58	33	18	27	34	34	59
7. Do you find it difficult to get your board to raise salaries of teachers on the basis of merit, such as outstanding work, etc.?	40	30	22	8	0	40	30	36	33	42	20	40	42	59	58
8. Do you find it difficult to get your board to raise salaries or grant bonuses for professional improvement such as attending summer school, etc.?	47	40	22	0	8	36	30	33	25	33	17	30	45	75	59
9. Do you find it difficult to get your board to leave all matters of discipline to your judgment?	6	7	8	0	0	4	7	11	0	17	90	86	81	100	83
10. Do you find it difficult to get your board to refer to you all matters of complaint coming from pupils and patrons?	11	10	8	0	8	24	20	28	0	25	65	70	64	100	67
11. Do you find it difficult to get your board to discourage teachers in bringing matters directly to the board, without the matters first passing through the office of the superintendent?	9	7	8	0	0	21	23	14	8	25	70	70	78	92	75
12. Do you find it difficult to get your board to refer back to you any matter of general policy presented to the board by any teacher, principal, or supervisor?	30	17	14	8	17	43	50	44	42	17	27	33	42	50	66
13. Do you find it difficult to prevent the individual members of your board from passing judgment on matters when not in session?	23	33	14	0	0	30	29	14	25	25	47	38	72	75	75
14. Do you find it difficult to get your board to meet on regular dates?	20	20	8	0	8	26	23	19	8	17	54	57	73	92	75
15. Do you find it difficult to get your board to attend to business as promptly as the necessity demands? For example, a matter of policy; the dismissal of a teacher, if the teacher is failing in his work, etc.?	20	20	8	0	8	40	38	19	25	0	40	42	73	75	92
16. Do you find it difficult to get your board to accept the budget submitted by you, based upon the needs of the respective departments of your school system?	40	33	22	8	8	41	44	44	17	33	19	23	34	75	59
17. Do you find it difficult to get your board to make plans looking far enough into the future? For example, a building program; selection of equipment, or a graduated salary scale?	43	40	22	0	42	21	29	40	8	8	36	31	38	92	50
18. Do you find it difficult to get your board to visit other schools with a view to local improvements?	80	67	55	44	42	12	29	25	25	25	8	4	20	31	33
19. Do you find it difficult to get your board to do professional reading as a means of setting up higher standards for the community?	70	57	42	25	0	30	33	8	33	8	0	10	50	42	92
20. Do you find it difficult to get your board to grant you time and expenses for attendance at educational meetings?	23	14	14	0	8	40	29	31	8	8	37	57	55	92	84

*Group I. 0- 2,999—70 cities reporting.
Group II. 3,000- 4,999—42 cities reporting.
Group III. 5,000- 9,999—42 cities reporting.
Group IV. 10,000-19,999—12 cities reporting.
Group V. 20,000 and over—12 cities reporting.

TABLE I—Concluded

Difficulties	*Major Difficulty* Percentage Reporting Group*					*Minor Difficulty* Percentage Reporting Group					*No Difficulty* Percentage Reporting Group				
	I	II	III	IV	V	I	II	III	IV	V	I	II	III	IV	V
21. Do you find it difficult to get your board to recognize merit rather than display as a standard? For example, does your board think more of service to your community than of units of affiliation, etc.?.....	7	5	5	0	17	20	12	11	17	8	73	83	84	83	75
22. Do you have difficulty in getting your board to leave extracurricular activities to your judgment?.....	17	17	11	0	8	33	23	19	8	25	50	60	70	92	67
23. Do you find it difficult to get your board to take an active stand in the community for the schools when the schools and school policies are being attacked or criticized?.....	20	10	14	0	17	33	23	25	17	0	47	67	61	83	83
24. Do you find it difficult to get your board to influence the better citizenship to vote when the retreachers are trying to elect all trustees?	37	19	22	17	8	37	30	31	8	33	26	51	47	75	59
25. Do you find it difficult to put over a long-time program for your schools because of the frequency of change in the personnel of your board?	21	14	11	0	17	33	30	36	17	17	46	56	53	83	66
26. Do you find it difficult to get your board to assume its share of responsibility for the schools?.....	21	12	19	0	0	36	33	28	25	50	43	55	53	75	50
27. Do you find it difficult to get your board to attend to business with the proper dispatch, that is, to so attend to business as to get all matters closed up that should come before that session?.....	30	17	11	0	8	30	36	36	17	33	40	47	53	83	59
28. Do you find it difficult when in session to get your board to dispatch business systematically?.....	13	17	11	8	17	30	20	22	50	0	57	63	67	42	83
29. Do you find it difficult to prevent your board from being influenced by the "street sport" and the "drug-store coach" in matters of athletics and other school sports?.....	30	23	11	0	0	34	14	8	0	8	36	63	81	0	92
30. Do you find it difficult to get your board to give out to your community, in a systematic way, information with regard to the schools?	30	33	22	0	8	23	19	16	0	8	47	48	62	0	84
31. Do you find difficulty in preventing your board from allowing their informational service to their community to degenerate into propaganda?	18	29	14	0	7	30	16	17	0	10	52	55	69	0	83
32. Do you find difficulty in getting your board to refer back to you the budget for adjustment, if any items seem in excess of what the board can meet?.....	17	14	14	8	33	20	17	16	25	17	63	69	70	67	50
33. Do you find difficulty in getting your board interested in standardizing your school accounting system?	50	44	33	25	25	20	14	11	33	25	30	42	56	42	50
34. Do you find difficulty in getting your board to recognize the principle that the tax levy should not be made until the needs of the community are known?.....	51	48	40	25	33	20	7	5	25	25	29	45	55	50	42
35. Do you find difficulty in getting your board interested in adopting a budget on the unit cost basis, such as school population, average daily attendance, etc.?.....	71	64	55	42	33	10	9	14	33	42	19	27	31	25	25

no way limiting the effectiveness of school administration or so little as to be negligible.

Questionary

1. Do you find it difficult to get your board to delegate to you full responsibility for the selection of teachers?
   Major difficulty .....
   Minor difficulty .....
   No difficulty .....
2. Do you find it difficult to get your board to realize that it is best to pay salaries high enough to get the best type of teachers?
3. Do you find it difficult to get your board to leave to your judgment the assignment of teachers?
4. Do you find it difficult to get your board to leave to your discretion the transfer of teachers?
5. Do you find it difficult to get your board to see that no teacher is dismissed without your recommendation?
6. Do you find it difficult to keep your board from being influenced by personal preference in the selection of teachers?
7. Do you find it difficult to get your board to raise salaries of teachers on the basis of merit, such as outstanding work, etc.?
8. Do you find it difficult to get your board to raise salaries or grant bonuses for professional improvement such as attending summer school, etc.?
9. Do you find it difficult to get your board to leave all matters of discipline to your judgment?
10. Do you find it difficult to get your board to refer to you all matters of complaint coming from pupils and patrons?
11. Do you find it difficult to get your board to discourage teachers in bringing matters directly to the board, without the matters first passing through the office of the superintendent?
12. Do you find it difficult to get your board to refer to you any matter of general policy presented to the board by any teacher, principal, or supervisor?
13. Do you find it difficult to prevent the individual members of your board from passing judgment on matters when not in session?
14. Do you find it difficult to get your board to meet on regular dates?
15. Do you find it difficult to get your board to attend to business as promptly as necessity demands? For example, a matter of policy; the dismissal of a teacher, if the teacher is failing in his work, etc.?
16. Do you find it difficult to get your board to accept the budget submitted by you, based upon the needs of the respective departments of your school system?
17. Do you find it difficult to get your board to make plans looking far enough into the future? For example, a building program; selection of equipment, or a graduated salary scale?
18. Do you find it difficult to get your board to visit other schools with a view to local improvement?
19. Do you find it difficult to get your board to do professional reading as a means of setting up higher standards for the community?
20. Do you find it difficult to get your board to grant you time and expenses for attendance at educational meetings?
21. Do you find it difficult to get your board to recognize merit rather than display as a standard? For example, does your board think more of service to your community than of units of affiliation, etc.?
22. Do you have difficulty in getting your board to leave extracurricular activities to your judgment?
23. Do you find it difficult to get your board to take an active stand in the community for the schools when the schools and school policies are being attacked or criticized?
24. Do you find it difficult to get your board to influence the better citizenship to vote when the retrenchers are trying to elect all trustees?
25. Do you find it difficult to put over a long-time program for your schools because of the frequency of change in the personnel of your board?
26. Do you find it difficult to get your board to assume its share of responsibility for the schools?
27. Do you find it difficult to get your board to attend to business with the proper dispatch, that is, to so attend to business as to get all matters closed up that should come before that session?
28. Do you find it difficult when in session to get your board to dispatch business systematically?
29. Do you find it difficult to prevent your board from being influenced by the "street sport" and the "drug-store coach" in matters of athletics and other school sports?
30. Do you find it difficult to get your board to give out to your community, in a systematic way, information with regard to the schools?
31. Do you find difficulty in preventing your board from allowing their informational service to their community to degenerate into propaganda?
32. Do you find difficulty in getting your board to refer to you the budget for adjustment, if any items seem in excess of what the board can meet?
33. Do you find difficulty in getting your board interested in standardizing your school accounting system?
34. Do you find difficulty in getting your board to recognize the principle that the tax levy should not be made until the needs of the community are known?
35. Do you find difficulty in getting your board interested in adopting a budget on the unit cost basis, such as school population, average daily attendance, etc.?

Conclusions

From the data just presented, it seems evident that there is little difference in the administrative problems involved in communities between 0 and 10,000. Furthermore, it seems that there are fewer major difficulties encountered in the cities of from 10,000 to 20,000 population than any other size group presented in this study.

Attention is called to the fact that a major difficulty may or may not be of frequent occurrence. Also, it should be remembered that a large number of minor difficulties within a given community may produce just as harmful results as a major difficulty. Indeed, unless minor difficulties are avoided or checked, they quite probably will develop into major difficulties.

It seems to the writers that an analysis such as the one presented here for every state would be most beneficial. On the basis of similar data for the country as a whole, much could be done in the way of refining and expanding the governing principles of educational administration.

HOW PUEBLO SCHOOLS REDUCE SCHOOLBOOK COSTS THROUGH A BOOK-REPAIR DEPARTMENT

D. N. Wells

The school board of School District No. 20 of Pueblo, Colo., in seeking a method of reducing schoolbook costs, decided about a year ago to establish a book-repair department. Upon recommendation of the superintendent the matter was placed in the hands of the maintenance department, which conducted a thorough study to determine the best method and the cost of operating a bindery. Probable savings over the prices charged by commercial binders were considered, and the quality and appearance of the work was taken into account.

A room was assigned for book-repair work in the basement of the junior high school, and was provided with simple and inexpensive equipment. For holding the books while sewing, a harnessmaker's vise with a clamp was installed. Other pieces of equipment provided were a small electric drill, a glue pot, and a book press having a capacity of fifty books. One employee does all the repairwork.

Under the arrangement, each school has been given a box in which are placed all worn-out books. When the box is full, it is sent, with a list of the books, to the book-repair department. The books are checked from the list, so that upon return, the destroyed books may be taken from the inventory. The books are rarely held in the bindery longer than a few days, and the improved appearance when returned for use is greatly appreciated by both the pupils and teachers.

It is estimated that the average cost of repairing books for the seven months during which the shop has been in existence, is 33 cents per volume. This includes the cost of equipment, supplies, and labor, with no charge for light or heat. Excluding the cost of the equipment and other expenses in fitting up the room, the cost is 26.8 cents per book. This is considered

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Personnel Management in Smaller School Systems

Edwin E. Hudson, Superintendent of Schools, Mahtomedi, Minn.

The Large vs. the Small System

The administration of personnel in the larger school systems has become highly specialized. These larger systems can employ experienced special officials whose duty is the selection, training, and managing of personnel. But conditions in the smaller school systems have not favored efficiency or specialization, and it is with difficulty that the administration of personnel is made as progressive and scientific as it should be. A main hindering factor in efficient personnel management everywhere is the partially subjective and intangible nature of the work. In the smaller schools a single official, often with but an average training, has had to perform a wide range of other duties in addition to the handling of his staff. There is also the overshadowing emphasis sometimes placed on such prerequisite matters as instruction, housing, and finance.

Traditional Obstacles in Smaller Systems

The common and usual circumstances under which the school administrator has had to maintain the teaching staff of the typical small to average sized school systems have been the following unfavorable ones:

1. *Low salaries.* The median salary paid to elementary teachers outside of the largest cities in Minnesota, a representative state, is under $1,100; whereas, in the three largest cities of this state, teachers receive more than half again as much.

2. *Large annual turnover.* In many schools, the changing of teachers frequently runs as high as 50 per cent or more each year. The cause of this annual procession undoubtedly lies within the basic organization and administration of these smaller school systems, rather than being inherent among the teachers themselves.

3. *Inadequate methods of teacher selection.* Teachers are sometimes chosen by different laymen each year who have ascended to positions on school boards, and who must necessarily use the criteria they have.

4. *Unscientific placement.* Teachers have been chosen on general qualifications, and placed wherever they happened to be needed. There has been little attempt, even in schools which have superintendents trained in school administration, toward specialized selection and placement of teachers in schools and positions where they are best suited on the basis of social and vocational aptitudes for the particular kinds of work they will have to do.

The Lack of Supervision

5. *Lack of Supervision.* Teacher guidance and training in service have been limited and inadequate. Administrative policies often have not effectively promoted professionalism and continued teacher growth. The result is stagnation in educational interests after teachers leave their training schools. Then in the absence of growth, members of a staff sometimes become imbued with an unfavorable morale composed of jealousies, suspicions, undesirable competition instead of cooperation, unprofessional ethics, and a lack of unity and school spirit.

6. *The determination of salary raises, re-elections, promotions, and other rewards on bases other than merit.* This has caused among the better teachers a tendency toward the attitude "What's the use, it doesn't pay," and has tended to develop unfavorable ethics among the poorer teachers.

7. *Devices and procedures intended for application to larger school systems have often been applied directly to the smaller schools without taking cognizance of the varying local conditions in different small systems.* This has come from a genuine zeal on the part of small-school administrators, who have studied and applied procedures from the volume of educational literature developed mostly from the large-school viewpoint and consequently adapted primarily to large-school use.

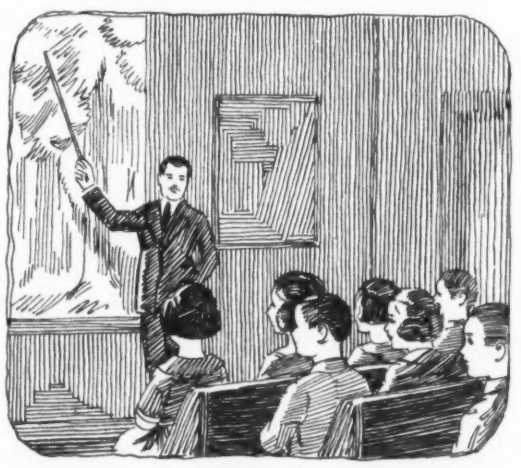
8. *The destructive domination of school affairs* at times by an officious board member, teacher, or other person or petty political group that may have gained undue influence by unethical or noneducational methods.

9. *The absence of a definitely crystallized personnel policy* which is well considered in advance, which is securely established, which fits best into the local conditions, and which is in keeping with advancing educational thought and practise.

Administrators have tended to apply to the personnel of a school staff somewhat the same employer-employee relationship which managers of stores and bosses of shops often use toward their workmen or employees; that is, the predominating attitude is one of purely commercialized production or business, rather than a broader, reciprocating and participating interest in the common problems on the part of both sides. This has caused teaching too often to be regarded as a job for mere workers rather than as a profession; and as an occupation rather than as position of responsibility. Too, we have seen teachers regarded by their administrator much as teachers often regard their pupils —with limitless rules, continual praise and censure, the maintenance of a distance or position of superiority, by employing "disciplinary" measures, and by inculcating the general idea that the teacher is the worker who is constantly "checked up." The common result is the establishment of a balance between the superintendent on the one side and the teachers on the other; the former trying to get what he can from his staff and the latter trying to do only that which is definitely required. Such policies naturally drive teachers to the main aim of suiting their superintendent and to "get by." The professionalization of teaching cannot proceed far until more professional and democratized relationships are developed among teachers and their school officials.

Personnel Management for a Small School System

In an effort to establish an administrative policy which would provide better working conditions, produce better instructional results, and help to eliminate the underlying jealousies and misunderstandings which so often lead to those more serious troubles involving personnel, the writer has developed the following administrative devices and procedures for the local elementary school of 230 pupils and 8½ teachers:



1. Specialized teacher selection, to secure teachers who are adapted to the kind of work they are to do, and who will adjust into such local conditions as these: (*a*) Suburban community, (*b*) good class of people, (*c*) pupils above average ability, (*d*) departmentalized instruction, (*e*) widened scope of schoolwork, (*f*) proximity to large-city advantages, (*g*) near a university and other educational advantages, (*h*) salaries above average, (*i*) democratic, teacher-participating and progressive school policies.

2. A local course of study is maintained by the staff to supplement the state course. It serves to clarify and standardize the various phases and departments of schoolwork. It is especially valuable to incoming teachers. It helps to prevent overlapping and omissions in instruction, responsibilities, and policies. In addition to outlining content and method of subject matter, it contains statements and explanations of school procedures and administrative policies. It is the handbook of information about the small school.

3. Though the state law does not provide for permanent teacher tenure, there is a definite general understanding locally that teachers who are efficient will be retained. This encourages teachers to a more professional outlook. The amount of change on the teaching staff has been materially reduced. Practically all losses have been because teachers have gone to better positions than the local district can offer.

A Salary Schedule

4. There is a salary schedule, providing for annual increases based on merit. A phase of the school publicity is that which is carried on to educate the public to the value of the efficient teacher who can be secured and retained only by good salaries. Instead of continually bargaining with teachers in an endeavor to keep salaries down, the local school board has spent much effort along with the superintendent and teachers to raise salaries, by effecting economies about the school system and by increasing efficiency wherever possible to justify increasing salaries. The local schedule appears in Table I.

TABLE I. Teachers' Salary Schedule

Teachers entering without previous experience will receive $1,000; with one year, $1,025; with two years, $1,050. Further experience on arrangement.

In accordance with these ratings of the teacher's value to the school system,	Annual increases will be, for the second year.	for each succeeding year.
A	$125	$75
B	100	50
C	75	25

5. There is an effort to determine merit objectively, though the value of human service is very intangible and difficult to measure. But even if such attempts are necessarily only beginnings, it must be quite generally agreed that any attempt is better than mere guesses and opinions. In the determination of a teacher's value to the local school district, these factors are considered:

a) Her contribution to the local course of study.

b) Courses and marks attained in summer sessions, Saturday, or extension courses.

c) Commendable work in extracurricular activities such as athletics, clubs, school news, music, school store, etc.

d) Extra work as librarian, as office manager, in health work, etc.

e) Desire to grow professionally, as evidenced by the teachers interest in books, lectures, conventions, meetings, periodicals.

f) Her ability to avoid disciplinary troubles.

g) Organization of her schoolwork, as evidenced by lesson plans, procedures, devices, tests, methods.

h) Is teaching her main business or a sideline?

i) Cooperation and loyalty in developing and perpetuating better school atmospheres and policies.

j) Her effort to attain to a better position in a better school system.

Use of Supplies

6. Teachers have unlimited access to the common stores and supplies. This policy is not adaptible to all systems, and will be objected to by some authorities. Requisitioning and the filling of orders for someone else are eliminated, and teachers can see for themselves and take such supplies as needed. Unused portions may be returned. Thus, it becomes unnecessary for teachers to stock up their rooms at the expense of the common supply. The teachers are familiarized with qualities, prices, and uses of the various supplies. Participation in selection, purchasing, distribution, and use of such materials tends to broaden the teacher's view of the problem. The teachers have appreciated the trust and responsibility placed in them. This policy has proved to be sound under the local conditions, and supply distribution has been more efficient and economical.

7. Professional stimulation is purposely and outwardly carried on as a definite campaign, in staff meetings, individually, and wherever possible. Some main methods are:

a) Arrangements are made for visits and talks to the school and to the teaching group by persons from other school systems, by teachers' college instructors, by lecturers, travelers and writers, etc.

b) In the separate teachers' section of the school library there is a special shelf upon which teachers may place bookmarked magazine articles and books which they have found especially valuable or pertaining to local problems.

c) Teachers select the professional magazines for which the school subscribes.

d) Provision is made by which teachers can make visits of a day or half day in other school systems, especially in the larger and more progressive ones. They also visit in the state teachers' colleges. Here they seek and observe instruction in work related to their departments or major interests.

e) Teachers occasionally interchange classes or other work. From this they gain a wider experience and a deeper understanding of schoolwork as a whole, through the increased contact, and by planning work for another to execute and in working from another's plans.

f) Professional reading is voluntary. No specified books, articles, numbers of pages, or oral or written reports are required.

Teachers Informed on Ratings

8. Copies of all recommendations written by the superintendent for any teacher are shown to that teacher. This is a departure from tradition. The policy is based on these arguments: That such recommendations concern the teacher in question more than anybody else; that there is no more genuine or official opportunity to tell a teacher what her excellencies and weaknesses are; that the evaluations and criticisms fall into a naturally premotivated setting; that the purpose of the recommendation is not harmed in any way; that a teacher has a right to know what her superintendent officially thinks of her work; and that under such circumstances recommendations must be honest and fair. The policy encourages frankness and confidence where the "strictly confidential" policy very often may breed mistrust and suspicion through its secrecy. The blanks upon which these recommendations are written, definitely set forth and explain this departure so that all concerned may know the exact cirumstances.

9. A circularizing memorandum is used in lieu of many of the continually recurring teachers' meetings which there is a tendency to hold for such small or routine matters that teachers' meetings may become boresome and lose their value. The memorandum is mimeographed with directions and teachers' names, and may be started by any teacher as well as by the office. Checks show the ones to whom the memorandums are to go, and each member of the staff may add comments or suggestions as the memorandum passes. Each signs his initials to the memorandum, thus signifying who has received it so far. The device is very efficient for a small school. A blank memorandum is shown here:

MEMORANDUM— (Text of original message here)

to those checked here; read, sign initials here:

.....Miss Simmons.....
.....Miss Miller .....
.....Miss Peters .....
.....Miss Small .....
.....Miss Booker .....
.....Miss Dixon .....
.....Miss Fisch .....
.....Miss Lynard .....
.....Mr. Hudson .....

BLUE memorandums to be passed on and considered outside of class periods.
PINK memorandums, rush at once.
FOR USE of teachers and office. Affix comments wherever helpful and return to our memorandum file.

CORRECT FOR ONCE
By Justin Funn

The inorganic kingdom was discussed,
Then the organic—lengthily—till they,
As subjects of the lesson under way
Were threadbare. The sedate old Prof had fussed
And fumed around and raised an awful dust
While trying to explain to them where lay
The difference; but they were dull that day—
Such pupils must be SHOWN. He found he MUST
Use illustration, though it might be odd:
"I close my eyes, I drop my head, I keep
Quite still," he mumbled earnestly aside,
"What am I now? A lifeless lump—a clod!
And NOW what am I as I move and leap?
Be quick!" "A BIG CLOD-HOPPER!" Bob replied.

10. Requests of the teachers by the superintendent should be the exception rather than the rule, as continual and recurring requests cause teachers to wait to be told what to do, and are not in keeping with a socialized situation. The local policy is to have each member of the staff know by himself what he should do, and to carry on his activities as automatically and spontaneously as possible, in accordance with a well standardized school policy made advisedly and in advance. Underlying this policy, the staff must know, of course, that in the last analysis the superintendent is the one responsible for affairs within the school, and that he must therefore have the unlimited cooperation in any requests which it might be necessary to make of the individual teacher or group.

Superintendent Handles Personnel Problems

11. The school board leaves matters pertaining to personnel management in the hands of its superintendent, to be carried out in accordance with rules and policies adopted by the board. This includes selection of teachers, recommendation, supervision, rating, and recommending of salaries. It is found advisable that there should be a phase of the school publicity for the special purpose of familiarizing the teachers, the public, and new board members with such policies as are adopted, established, and found to be sound in practise.

12. Very few ironclad rules are codified for the staff to follow. Instead of a set of rules, the policies of the school are made well known in the school handbook, in staff meetings, in the publicity, in conversation and conferences, and by using the memorandums described.

13. Instruction in the four upper grades is departmentalized into four departments under four upper-grade teachers, each teacher having each upper grade one fourth of the day for recitation and study in one major subject and one minor subject.

Though this arrangement necessarily defeats promotion by subject, it provides these advantages:

a) It allows teachers to specialize in their own chosen departments.

b) It gives pupils contact with methods and personalities of four teachers, and allows teachers to know all pupils better. The superintendent can get more contact with pupils, by teaching shop and writing, or other subjects to all four grades.

c) It makes each teacher responsible for unbroken instruction through four consecutive grades of a subject.

d) Special rooms and equipment may be provided.

Extracurricular Activities

14. Extracurricular activities present a specially difficult problem in a school so small that neither separate directors nor part-time teachers can be provided. This phase of schoolwork has a tendency to be slighted in a small school, and may lead to personnel difficulties as teachers may feel imposed upon.

The local policy provides that each teacher should expect to take at least one extra activity. The arithmetic teacher sponsors the school store, for which the pupils alternate as managers and keep their records and a bank account under the teacher's direction. The superintendent directs a boys' athletic association which sponsors school teams in football, hockey, and baseball with the superintendent as coach. School news is a function of the English department. In like manner departmental clubs are sponsored by the teachers of art, shop, music, and home training. Another teacher has a dramatic club. Such activities bring real life activities into school situations. They are productive in results for the teachers' time required, and show large dividends in providing motivation for schoolwork. If the superintendent or principal can take part of the teacher's regular work to free her during the day, she can be expected to do more work in out-of-school-hours activities.

15. There is a definite and continuing publicity campaign on the part of both the school staff and the school board. In addition to making known the work of the school generally, the publicity affects the management of personnel by making known that they are: (*a*) Graduates of recognized institutions, (*b*) efficient and competent, (*c*) professionally inclined, (*d*) that their departments secure good results, (*e*) that the school stands above average.

A most valuable phase of publicity is that which causes the public to be willing to leave educational matters relating to their children to a staff trained and experienced in such work. Many disrupting tendencies from the outside can often be entirely avoided by efficient publicity, or detected early and overcome.

A Democratic Relationship

16. There is an outward effort made to raise teachers above the usual classroom status. Teachers are given access to the office files, and they gain, by aiding in the keeping of such records, an experience in their use as well as an insight into the administrator's viewpoint. Teachers are given keys to the buildings and

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The Selection, Purchase, and Distribution of School Supplies

C. J. Anderson and John Guy Fowlkes, The University of Wisconsin

In no decade since public schools became a part of American institutional life has so much attention, time, and expert service been devoted to school buildings and school-building equipment as during the past one. Fireproof construction, proper and adequate lighting, heating and ventilation, modern service systems, auditoriums, gymnasiums, laboratories, studios, and other necessary accessory rooms have received special attention from school architects and school administrators.

Schoolroom equipment has been subjected to exacting tests and is being scientifically constructed. Experts are devising school desks meeting hygienic needs. The creation of special equipment to meet the requirements of modern teaching procedure in laboratory and classroom is keeping abreast of the newer educational developments.

During this same decade revolutionary changes in the curriculum have taken place. One need only mention the new viewpoint in reading instruction to establish this point. These changes have doubtless been inspired by the newer philosophy of education which focusses attention upon the child with whose developement it is concerned, rather than upon materials and methods which are but directing agencies in bringing about this development. Evidence of this change is furnished by the hundreds of American cities which are at the present time undergoing the process of curriculum revision and reconstruction.

Contemporary with this changed viewpoint and our newer school curricula has come a decided redirection of teaching procedure, and with it revolutionary changes in the materials of instruction and supplies. To make the application specific, mention is made of the kindergarten procedures which have shelved the traditional "gifts" of yesterday. Children live and grow in the kindergartens and in the elementary schools today, and the work of producing suitable supplies and equipment for their development is fully as important as teacher direction.

The Production and Distribution of Suitable Educational Supplies

Notwithstanding these trends, a survey shows that the production and distribution of suitable educational supplies have not received the attention they warrant. The standard lists of supplies used for a number of years in our large cities, and changed annually only in minor details, give evidence of a lack of attention by educators to these important educational devices.

The production, selection, purchase, and distribution of school supplies are becoming very complex problems. The simple school of a century ago demanded and used few school supplies. The growth of cities with the resulting complex school organizations; the congestion of school population with its problems of mass instruction, sanitation, safety, recreation, etc.; the changes in curricula and methods with their new demands for supplies and equipment—all these have made the selection and methods of purchase and distribution of school supplies an important rather than an incidental function in school administration.

These considerations give weight to the following investigation which summarizes present-day practice in the selection, purchase, distribution, and cost of school supplies. Their place in modern teaching procedure makes important a knowledge of the agencies determining the character and kind of school supplies, the time of order placements, the purchase procedures, supply storage, supply costs, etc. Improved practise in school-supply selection and management will reduce costs, eliminate the purchase of useless materials, and release funds to provide for the demands of modern teaching.

The investigation, a summary of which is presented in this paper, concerned itself with obtaining data from a list of representative cities ranging in population from 2,000 to 350,000 with a total population of more than 5,000,000, and distributed over 25 states. One hundred cities contributed to the investigation.

It was assumed that practice varied somewhat according to the geographical distribution of the cities. The data accumulated were arranged into tables, with the cities grouped into sections following somewhat the plan of grouping used in current geography texts. An examination of the tables indicated that the geographical factor was of negligible importance. The practice in El Paso, Texas, did not vary a great deal from the practice in a city of equal size in Indiana.

Who Places School-Supply Orders?

It was found, however, that the size of a city was an important factor. In the large city with its high degree of differentiation of administrative function, the practice relating to the selection, purchasing, housing, and distribution of school supplies differs materially from that of the city of 5,000. For this reason the data were reclassified on the basis of population groups. (Table I.)

TABLE I. The Agency Placing School-Supply Orders

Population Group	Number and Per Cent of Cities in each Group	Supt's Office Yes	Supt's Office No	Supplies ordered by Sec. Bd.	Purch. Agt.	Bus. Mgr.	Com. of Bd. of Ed.	Contract Awarded by Bd. of Ed.	Purch. Agt.	Bus. Mgr.	Supt.
50,000—	Per cent, 20	35	65	10	25	20	10	60	35	..	30
350,000	Number, 20	7	13	2	5	4	2	12	7	..	6
15,000—	Per cent, 23	70	23	4	13	4	17	60	13	4	23
50,000	Number, 23	16	6	1	3	1	4	13	3	1	6
4,000—	Per cent, 41	93	4	1	1	1	1	39	1	..	60
15,000	Number, 41	38	2	1	1	1	1	16	1	..	24
Below	Per cent, 16	94	6	..	..	..	6	44	..	..	56
4,000	Number, 16	15	1	..	..	..	1	7	..	..	9

Percentage totals do not equal 100 due to duplication in the number of purchasing agents in single schools.

The person authorized to place school-supply orders is an important individual educationally. He has great influence in the determination of the character and quality of supplies. Are school supplies ordered directly through the superintendent's office? If not, who has direct charge of this?

In the group of cities having a population over 50,000 the responsibility for placing school-supply orders is given to the secretary of the board of education, to the purchasing agent, the business manager, to a committee of the board of education, and in 35 per cent of the cases to the superintendent of schools. Contracts are awarded either by the board of education or the business manager, the superintendent acting in only 30 per cent of the cases.

When we examine the group of cities with a population ranging below 50,000, the superintendent of schools becomes the dominant power both in ordering school supplies and awarding the legal contract. Many of these smaller cities have neither purchasing agent nor business manager, and only in the smallest cities—those having a population below 5,000—does the board of education concern itself with these matters.

The following summary indicates the general practice:

1. There is a greater decentralization of authority as cities increase in size due to a greater differentiation of both function and control.

2. No definite standards of practice prevail. Various officials are designated to order supplies, excepting in cities with a population below 50,000 where the city superintendent is still the controlling factor in awarding contracts.

When are School-Supply Orders Placed?

The bulk of school-supply orders is placed during May, June, July, and August. More than 50 per cent of the cities in the largest population group report the placing of their orders in July. On the other hand, cities having a population of between 4,000 and 15,000, prefer to place their orders in June. The smallest city group scatter their orders from February to September. A few of the larger cities order as the supplies are needed. (Table II.)

It would appear that there are some controlling influences governing the time in which the orders are placed by the different groups of cities. The smallest group, (in population) because of the limited amount required, purchase supplies as desired. The largest group, (in population) leave the ordering until July when the rush of other school activities is out of the way. The 4,000 to 15,000 group leaves the ordering until after the commencement season is past and places the orders before leaving for the summer vacation.

Supply-List Quotations

It is customary for cities above 5,000 population to submit to supply houses a list of supplies needed with the request for a quotation. (Table III.) Every city with a population over 50,000 indicated that supply lists were submitted for price quotations. Ninety-one per cent in the population group 15,000-50,000 state that quotations are asked on supply lists. This is not the practice in cities below 5,000 in population.

In asking for price quotations, three methods are used: First, quotations on the entire list; second, quotations on sections, such as general supplies, manual-arts supplies, ets.; and third,

TABLE II. When Orders for Supplies are Placed

Population Group	Number and Per Cent of Cities	As Needed	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Sum.	Spring
50,000—	Per cent, 20	25	..	..	..	..	30	35	55	10	5	5	..
350,000	Number, 20	5	..	..	..	..	6	7	11	2	1	1	..
15,000—	Per cent, 23	4	..	..	4	4	9	22	35	9	..	..	..
50,000	Number, 23	1	..	..	1	1	2	6	8	2	..	..	..
4,000—	Per cent, 41	..	5	2	5	5	20	56	27	7	..	..	2
15,000	Number, 41	..	2	1	2	2	8	23	11	3	..	..	1
Below	Per cent, 16	..	..	7	7	20	20	20	33	20	13	..	..
4,000	Number, 16	..	..	1	1	3	3	3	5	3	2	..	..

TABLE III. How Supply Lists are Submitted

Population Group	Number and Per Cent of Cities	Are lists Submitted for prices Yes	Are lists Submitted for prices No	How are Prices Quoted On entire list Yes	On entire list No	On entire list Varies	On entire list No Answer	On sections Yes	On sections No	Every item Yes	Every item No
50,000—	Per cent, 20	100	..	15	5	15	10	40	..	50	..
350,000	Number, 20	20	0	3	1	3	2	8	0	10	0
15,000—	Per cent, 23	91	8	17	13	..	..	22	..	50	4
50,000	Number, 23	21	2	4	3	..	..	5	0	13	1
4,000—	Per cent, 41	89	12	29	15	12	..	17	12	39	..
15,000	Number, 41	36	5	12	6	5	0	7	5	15	0
Below	Per cent, 16	25	75	20	..	..	..	..	..	7	..
4,000	Number, 16	4	11	3	..	..	..	..	..	1	..

quotations on each item on the supply list. Relatively few cities ask for a lump quotation and contract with a single company for their entire list of supplies. A greater number of cities ask for quotations on specific sections and contract on this basis. Fifty per cent of the cities with a population in excess of 15,000, ask for quotations on each item of the supply list and contract on the basis of the lowest price quoted for each item. In cities below 4,000 in population it is not the practice to contract for supplies.

The practice of submitting lists of supplies for bidding has its dangers because of certain variables often introduced. School boards and superintendents have not as yet established standards either in quality or unit quantity of supplies, such as standard weights of paper, number of paper towels per roll, per case, etc. The lowest price bid may be the highest price when unit quality and quantity are given proper consideration.

Standardizing School Supplies

Attempts have been made to standardize the list of supplies furnished to the classroom. Some of the larger cities indicate the character of the supplies and the quantity furnished per pupil in the classroom. The following table taken from a recent textbook on public-school finance indicates the trend of standardization.[1]

This is a commendable practice. Unfortunately, relatively few schools have done very much in this field. The list of supplies submitted by the various cities indicates a very meager degree of standardization.

Order Forms and Requisitions

Special supply-order forms are used by the majority of cities with a population in excess of 15,000. The smaller communities do not use special order forms. They usually give their orders directly to a representative of the supply company. Teachers, principals, and the superintendent are responsible for the supply list. (Table IV.) In the cities with a population above 50,000, the superintendent makes no attempt to prepare such a list. The principals have some responsibility, but apparently greater responsibility is placed upon the teacher.

One city has an 18-page catalog of supplies for the year 1926-27. In this catalog are given directions for ordering supplies from the storeroom, the order number, and the description of each article. It is difficult to furnish sufficiently detailed information in such a catalog. For example, the actual color of construction paper must be seen by the teacher when she is making a choice. Careful studies should be made of the needs in the classroom for general supplies and for the special supplies used in art, home economics, etc., so that the person preparing the supply list for bids will not be compelled to depend for his basic list upon the preferences of individual teachers. The average classroom teacher has not sufficient information to determine the best materials even for the subjects which she is teaching. There is need for careful scientific investigation here.

TABLE IV. Supply Allotments

Population Group	Number and Per cent of Cities	Are Supply Lists Standardized: Yes	No	Part	Basis of Amount Distributed: Prin. Bldg.	Pupil Allowance	No. of Pupils	Past Record	Teacher Judgment	How often are Supplies delivered to Classroom? 1 mo.	2 mo.	3 mo.	Sem.	Year	When Ordered	Varies
50,000—	Per cent, 20	100	..	..	10	5	15	5	..	20	..	..	25	20	5	30
350,000	Number, 20	20	..	..	2	1	3	1	..	4	..	..	5	4	1	6
15,000—	Per cent, 23	60	30	10	30	10	10	20	30	30	..	..	5	10	5	50
50,000	Number, 23	14	7	2	7	2	2	5	7	7	..	..	1	2	1	12
4,000—	Per cent, 41	60	40	..	44	5	11	20	20	24	2	..	10	27	8	29
15,000	Number, 41	24	17	..	18	2	5	8	8	10	1	..	4	11	3	12
Below	Per cent, 16	50	50	..	31	6	13	13	6	6	..	13	20	38	6	20
4,000	Number, 16	9	9	..	5	1	2	2	1	1	..	2	3	6	1	3

Supply Allotments

Supplies are usually allotted on the basis of a specific amount per building, or on the basis of the amount used the previous year. In a few schools, while the allotment is based on the building, attention is paid to the number of pupils enrolled. Undoubtedly, the most scientific system of alloting supplies is illustrated in the table quoted. It shows the allotment per pupil in the various grades in one city. (Table V.)

TABLE V. Elementary Education: Articles of Educational Supply per Semester (20 weeks)

Article	Kdn.	1	2	3	4	5	6	7	8
		Grade							
Pens	0	0	10	10	20	20	20	20	20
Pencils	0	5	5	5	5	10	10	10	10
Erasers	0	1	1	1	1	1	1	2	2
Penholders	0	1	1	1	1	2	2	2	2
Spelling paper (sheets)	0	60	100	100	100	100	100	50	50
Arithmetic paper (sheets)	0	40	40	100	100	100	100	200	200
Scratch pads	..	2	2	4	4	8	8	10	10
Composition paper (sheets)	..	20	20	40	40	80	80	160	160
Drawing paper	20	20	20	20	40	80	80	80	80
Colored paper	20	20	10	5	5	...	...	...	...
Scissors	⅛	⅛	⅛	⅛	⅛	...	...	...	...
Needles	2	2	1	1	...	...	...	...	...
Clay (lb.)	1	...	...	...	...	...	...	...	...
Crayons	3	3	3	...	...	...	...	...	...
Paints	0	3	3	3	3	3	3	3	3
Brushes	0	½	½	½	½	½	½	½	½
Paste (bottle)	¼	⅛	⅛	⅛	⅛	⅛	⅛	0	0
Sand (lb.)	10	...	...	...	...	...	...	...	...
Weaving material	1	1	½	...	...	...	...	...	...
Cooking-supply units	..	...	...	...	...	10	10	10	10
Sewing-supply units	..	...	...	...	...	10	10	10	10
Manual-training units	..	...	...	...	...	10	10	10	10

Supply Storage and Delivery

A majority of the cities in every population group indicate central storage space. In cities below 15,000 in population, this usually means a room in the basement of the high-school building. In the large cities, a central storage building is provided, with bins containing supplies and inventory cards attached to the bins giving the quantity of each item of supplies on hand. (Table VI.)

TABLE VI. Supply Storage

Population Group	No. and Per Cent of Cities	Where Supplies are Stored: Central Storage	School Storage	Principal's Office	Supt. Building and Grounds Office
50,000—	Per cent, 20	90	10	..	..
350,000	Number, 20	18	2	..	..
15,000—	Per cent, 23	74	18	4	4
50,000—	Number, 23	17	4	1	1
4,000—	Per cent, 41	90	10	..	..
15,000	Number, 41	37	4	..	..
Below	Per cent, 16	63	37	..	..
4,000	Number, 16	10	6	..	..

Cities with a population of more than 15,000 make regular deliveries of supplies. Sixty-one per cent of the cities in the 15,000-50,000 population group, and 80 per cent of the cities in the 50,000-350,000 population group indicate regular deliveries. These deliveries are usually made by a school truck in the larger cities. In the smaller cities with a population of under 15,000, the city dray is utilized. The janitor of the high school delivers the supplies in 25 per cent of the cases, and in a few instances, the janitors of the various ward buildings go to the central building for needed supplies. Relatively few cities indicate that their present system of delivering supplies is unsatisfactory. (Table VII.)

Pupil Cost of School Supplies

An attempt was made to secure reliable data on the per-pupil cost of school supplies. Relatively few cities were able to furnish the data. Such replies as the following are common:

"Cost data not compiled. Should like to know how."

"We spend about $3,500 a year upon supplies, but we have no pupil-cost data available."

"I can give you only the total figures for supplies. This seems to serve our purpose fairly well, and it would be an endless job to keep cost data in the way indicated in your questionary. Most of our supply items are entered under instructional service.

"We do not keep an itemized account of supplies furnished each department. I inclose a budget for the distribution of supplies. Do your own figuring."

"We do not separate our supply costs."

It is important to know supply costs per pupil in average daily attendance. In large cities, it is almost impossible to determine the amount to be requested for supplies in the annual budget, unless accurate data properly classified are kept concerning the cost of supplies of various types.

The investigation makes no attempt to indicate conclusions from cost data submitted except to call attention to the fact that at the present time school systems have not established accounting systems sufficiently detailed to give them information concerning the per-pupil costs of supplies. Were adequate accounting made of these items, it would undoubtedly bring about a readjustment of supply purchases and increase the total purchases of supplies. At the present time many subjects receive no supplies, other subjects fail of full effectiveness because administrators do not realize how inadequately these subjects are being financed in the way of supplies, and still other subjects have a per-capita expenditure for supplies in excess of that warranted.

School-Supply Management

Several hundred forms used in the selection and distribution of school supplies have been received and studied by the investigator. These forms range from simple mimeographed sheets

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TABLE VII. Supply Delivery

Population Group	No. and Per Cent of Cities	Deliveries Regular: Yes	No	How Often: W'kly	Mon'ly	As Ne'd'd	Delivery: Truck	Dray	Vehicle: Janitor	Pupils	Bus	Is System Satisfactory? Yes	No	Part'y
50,000—	Per cent, 20	80	20	45	10	20	85	5	5	..	5	80	5	10
350,000	Number, 20	16	4	9	2	4	17	1	1	..	1	16	1	2
15,000—	Per cent, 23	61	32	43	13	22	57	4	4	4	4	90	4	..
50,000	Number, 23	14	7	10	3	5	13	1	1	1	1	20	1	..
4,000—	Per cent, 41	46	54	32	7	40	17	14	25	2	..	83	15	..
15,000	Number, 41	19	22	13	3	16	7	6	10	1	..	34	6	..
Below	Per cent, 16	13	63	..	6	20	..	..	13	25	..	69	6	..
4,000	Number, 16	2	10	..	1	3	.	..	2	4	..	11	1	..

[1] Arthur B. Moehlman. Public-School Finance, Table 48, p. 252.

School Supplies—Their Purchase and Distribution[1]

J. S. Mullan, Secretary and Purchasing Agent, Board of Education, Rochester, N. Y.

The purchase and distribution of school supplies is becoming constantly a more complex problem. The method of handling such supplies is an important rather than an incidental function of the school administration. The purchasing agent's job has often been belittled and classed as one of mediocre type. I feel that our mission, if properly performed, is of vital importance and that we can render real service in the great work of education.

In a recent survey, Prof. C. J. Anderson of the University of Wisconsin, in referring to the purchasing and distribution of supplies, made this statement: "The teaching procedure of the present day, the revised curriculum, and the modern teacher depends for their success fully as much upon new materials for instruction and supplies as they do upon perfected fixed equipment." This being true, it is our duty, as purchasing agents, to leave no stone unturned in order to avoid criticism of materials furnished, so that such materials will in no way handicap the teaching force, at the expense of the pupils.

It is quite natural that what I say will be based largely upon our own home-grown system. I do not wish to be understood as classing it as the only desirable system. It is, however, the best under which we have operated. No doubt, a number of those present will recall the paper I presented at the Kansas City meeting in 1925. In that paper I stated that we had adopted a standardized system of handling supplies and equipment. In other words, after a great deal of thought, study, and consultation with committees made up of our teaching force, we had determined standards as to the types of material, quantities, and qualities required on a per-pupil basis for one year.

We have been operating under this system since 1925. At the time I presented the paper referred to, the system was in its infancy. Today it has reached full maturity. True, we have made many changes as to quantity and other minor details, but the system itself has not been altered. In 1925, when we proposed a change in our system of handling supplies, a number of our teaching force were of the belief that it would not work out satisfactorily. Today these same persons have only the highest commendation and would strenuously oppose going back to the old system.

Purchasing

I believe that all purchases, so far as possible, should be made on the competitive basis. In order to secure the best results, carefully prepared specifications should be made. Before preparing such specifications a survey should be made of all materials in use in the schools to ascertain whether they are giving entire satisfaction, and if not, what just criticism can be made by the teaching force. This procedure is essential in order to keep in touch with the situation and make any changes necessary in new specifications.

Purchasing agents should keep in touch with the supervisory force, heads of departments, and others to whom is delegated authority to make changes in textbooks or changes in the curriculum affecting textbooks and other materials. A definite understanding should be reached that notice must be given to the purchasing agent far enough in advance of any contemplated changes to permit him to dispose of materials then on hand. When specifications have been prepared, bids received, and contracts awarded, it should also be understood that no changes by any department should be made until the supply of materials purchased has been exhausted. This is one of the essential means for avoiding the stocking up of the central storehouse with dead material.

Mr. Samuel A. Gaiser brought out very clearly, in his paper on purchase equipment and supplies and distribution, read at our Toronto meeting, the fact that in large cities at least there should be a central depository. I wish simply to emphasize what he said: A central depository affords the purchase of supplies in large quantities at correspondingly low prices. Furthermore, it insures more prompt deliveries, as well as uniform materials to all schools, both main essentials in meeting pupil needs. We must bear in mind at all times that the pupil is our chief concern and should be given our first consideration.

Uniform Specifications

There is no such thing as uniform specifications for the reason well known; namely, that few, if any, states in the Union are not governed by local laws, and specifications must be prepared to meet local requirements.

In New York state the law requires that contracts must be awarded to the lowest responsible bidder, making it necessary for us to safeguard our specifications in order that we may secure the proper quality of materials. We, therefore, choose as a standard a certain make of material or a manufacturer's name representing the quality we desire, and so stipulate in our specifications. In other words, were we to advertise for drawing pencils and not use as a standard John Doe's No. —— as to quality, we would be required to accept the lowest bid regardless of quality. We do not, however, hold arbitrarily to the description as contained in our specifications, but give the bidder the privilege of submitting substitutes, in which case he is so to state, mentioning the particular item to which the statement refers. Price and quality in this case are determining factors.

Care should be exercised in the preparation of the specifications as to the use to be made of the material. If, for example, a lesson is to be given, which necessitates the use of pencil or ink paper and after the lesson is over, the paper is immediately destroyed, the cheapest possible paper available to stand the test should be purchased. On the other hand, if a lesson requires the retention of papers, a better quality of paper stock should be furnished. This question of use should be a determining factor in all purchases.

Securing Bids

After specifications are prepared and bids called for, the purchasing agent should refer to his up-to-date file (of course, every purchasing agent should keep one) containing names of all reliable vendors handling the various items as contained in the specifications. A copy of these specifications should be mailed to each vendor, or at least notice should be given that bids are called for and that specifications may be secured at the office of the purchasing agent.

Too much emphasis cannot be laid upon the importance of securing the largest number of competitive bids, and only by keeping an up-to-date list of manufacturers and dealers can this be brought about satisfactorily. Tabulating sheets should be prepared, conforming with the specifications as to items, so as to facilitate and save time in tabulating. When bids have been opened and tabulated, the real work of the purchasing agent begins. Consideration should be given in each case to the lowest bidder. If the quality meets the specifications there is no problem. Should it not, then the next low bid should be given the same consideration and so on until the specifications are met.

Other things being equal, local dealers should be given preference in the awarding of contracts, but out-of-town bidders should receive due consideration and if their bids are low, and meet specifications, they are entitled to and should be awarded the contracts. It is not fair to solicit competition and then eliminate out-of-town bidders. On the other hand, were we to state in our specifications that only local dealers can bid, there is danger that we would receive higher bids than if the bidders knew they had to meet outside competition.

The purchasing agent should not be the sole determining factor in the choice of materials. He should take into his confidence committees consisting of supervisors, heads of departments, and others concerned with the use of the materials, and obtain their judgment as to quality. This does not mean that the judgment of such committees need be accepted as final, but the fact that people concerned with the use of materials have had a part in their purchase will often forestall criticisms of the quality of such materials. After a satisfactory decision has once been reached, it should be considered final for the entire school system; that is, the material accepted should be used in all schools. Were we to permit one person his or her preference and another something different, it would be necessary to establish a storeroom for each school and prepare separate specifications.

Samples Required

It is essential that samples be submitted with the bids, except in cases where bidders agree to furnish exactly the make or name of the article designated in the specifications. When samples are submitted and accepted, they should be properly tagged, placed under lock and key, and retained until delivery of the material is made. A careful comparison should be made of each item with the sample submitted. Where materials delivered do not meet specifications, a readjustment is demanded. We have all, undoubtedly, had experience along this line.

Checking

The checking of the goods received at the storehouse is a matter of no small importance. In case the person checking up material finds an amount different from what should have been received, he should require a separate count by another individual in the stockroom, and should not reveal to the latter his findings until after the second count has been made. If the two agree, it is quite evident that there is an error. In case, however, the counts do not agree, a third person should be called in to make a recount to be absolutely sure before a report is made.

Janitors' Supplies

The selection of cleaning supplies is and has been a real problem. Some time ago, after consultation with our supervisory janitor and stockkeeper, we deemed it wise to have an investigation made as to the quantities of cleaning powders used. In canvassing the matter, our belief that a saving could be made was confirmed. In order to arrive at a standard we decided to make a tryout in one school, whose janitor's opinion would be reliable as to results. We then took some of the more expensive powders and requested this janitor to try them out, reducing quantities to the minimum necessary to get desired results. This was done and it was clearly demonstrated that in many cases the cheaper powder was the more expensive in the long run, and that we were using a greater quantity than needed. We then called a meeting of the janitorial force. The matter was presented, with an explanation of the results of the demonstration as to the reduced quantities. Many of the janitors replied, "It cannot be done." We requested that they give it a trial, which they did in a very cooperative spirit. Most of them were honest enough to come later and say, "We found that you were right." We then standardized upon the amounts necessary to do the required work and are allotting our janitorial supplies accordingly. This does not mean that we are purchasing the highest priced materials. We also analyzed cheaper materials in order to determine the best results obtainable for the least money. We find that the amount of materials used has been greatly reduced, with a considerable corresponding saving.

Deliveries

Under our present system we figure on 4 deliveries of supplies per year—2 each 20-week semester. Emergency requests, of course, are given consideration and deliveries made when necessary. Deliveries are made from requisitions signed by principals on a per-pupil basis. In other words, instead of filling in the amounts that are needed for each teacher or department, principals simply furnish the number of pupils registered, and give an inventory of supplies on hand.

All requisitions must be signed in ink by the principal and sent to the purchasing agent for approval. The purchasing agent then passes them on to the chief clerk, whose duty it is to see that they are filled as to quantities and that the material is marked and made ready for distribution.

Each teacher has a separate blank for her requirements and fills in, as stated above, her registration and inventory figures only. It does some-

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[1]Read before the National Association of School Business Officials, Denver, June 6, 1928.

What the Principalship Should Be

Clarence R. Stone

There is a general agreement among experts in education that the unit of supervision should be the school, and that the principal of the school should be a professional leader, responsible for all that goes on in the school and clothed with authority commensurate with his responsibility. A considerable percentage of elementary-school principals in cities of over 100,000 population are real professional leaders, utilizing modern scientific methods in organizing, directing, and managing their schools; and giving at least an equal amount of time to the improvement of instruction through various means. Many of these principals who have a master's degree in education, are careful students of problems relating to the administration and supervision of elementary education. But, the elementary principalship in American schools, in the main, has not developed into the position of professional leadership that it should occupy. In many systems, it is regarded as a mere stepping-stone to a more responsible and more highly regarded position, such as a high-school teacher or principal, or a superintendent of a smaller center. The writer will take up a number of factors which are involved in making a profession of the elementary principalship.

Equal Pay for Equal Responsibility and Training

The idea that elementary education is as important as secondary education, and that an elementary-school principalship requires the same amount of ability and special training as the principal of a secondary school of the same size has gained ground. The single-salary schedule, which is based upon the idea that there should be equal pay for equal training, experience, merit, and responsibility, is now in operation for teachers in a number of systems. The ability and professional preparation essential for professional leadership on the part of an elementary-school principal of a school of 600 pupils is just as great as it is for a high-school principal of 600 pupils. The responsibility in each case is the same. For positions of equal responsibility requiring equal amounts of professional preparation there should be equal pay. Such a principle in actual operation is one factor in making a profession of the elementary principalship and encouraging students of education to choose this field as a lifework. In this connection, Principal W. T. Longshore, representing the Department of Elementary-School Principals of the National Education Association, says:

"It is the purpose of the committee on standards and training for the elementary-school principalship to raise the entrance requirements for the elementary principalship to that of the high-school principalship, or even college professorship, in order that a single-salary schedule might be feasible and applicable, thus allowing a free choice of talent to serve its chosen field of education, at the same time carrying with it a dignity recognized by compensation adequate for the work."

Preparation of Elementary Principals

The present standards of preparation for entering and advancing in the elementary principalship are apparently too low. Principal R. E. Pollich found that practically all the large cities require at least normal-school graduation, but that less than half require college graduation for entering the elementary principalship. The proposal of Longshore that an A.B. degree, with a major education, should be the standard requirement for entering the elementary principalship appears to be reasonable.

In the larger cities, elementary schools are usually classified according to the number of rooms. The general practice is to relieve principals from regular teaching duty in cases where the supervisory unit has 8 or more rooms. Schools of 18 or more rooms usually constitute the first class. A reasonable standard requirement of preparation for election or promotion to a first-class elementary school is an A.M. degree with the major work in education. Professor J. Cayce Morrison advocates one year of graduate study, with a major in the supervision and administration of elementary education, as a prerequisite for admission to the profession of an elementary-school principalship.

As a foundation requirement, there should be courses in the history of education, in the philosophy and theory of education, and in general and educational psychology. But, the larger part of the training, should be specific courses in the administration and supervision of elementary education, investigations in elementary-school subjects, child study, supervisory technic, elementary-school curriculum, the learning process, methods of teaching, measurement of intelligence and educational achievement, and problems of classification and promotion.

It is not too much to expect that within the next ten years a master's degree in education will become a standard prerequisite for entry into the profession of elementary principalship, with one year of graduate study in education beyond this for promotion to a first-class principalship.

The Salary of the Elementary Principal

If one of the problems in the development of greater efficiency in elementary education is the development of the elementary principal to the status of a real professional leader, an essential to the solution of this problem is the provision for an adequate salary for the elementary principal. It has been shown that the present salaries of the best-paid principals in a few of the larger cities are fairly satisfactory. But, the general level of salaries of supervising principals are too low to commend the required ability and professional training essential to scientific management and expert supervision. The too-low salaries have often forced principals to supplement their meager income by some sideline endeavor, and have made it impossible for them to possess the necessary professional books and periodicals and to continue their professional education. The maximum salary for principals of first-class elementary schools in cities of over 100,000 population should be at least $4,000, and in the largest cities, $5,000 to $6,000. The 1926 average annual salary of supervising principals in cities of 30,000 to 100,000 population was $2,636.[1] It should be at least $3,000 with opportunity to reach a maximum of $4,000, if the status of the elementary principal is to be raised to a position of professional leadership. The raising of the standards of prerequisite preparation and the general increase in salaries of elementary principals must develop hand in hand.

The Consolidation of Schools

The problem of the consolidation of schools is not alone a rural problem. As a result of a careful study of the principalship in the cities of Ohio, Prof. J. Cayce Morrison says: "It may be that one of the biggest problems to be met by elementary-school principals is to give impetus to a nation-wide movement for the consolidation of elementary schools to the extent that the unit will be sufficiently large to challenge the best effort of the men and women who make elementary-school administration a lifework." Frequently, elementary schools are closer together than necessary, with the result that the number of relatively small elementary schools is too large. School surveys, such as those of St. Joseph, Mo., and Berkeley, Calif., have shown that a proper arrangement of school units in many cities would result in fewer schools and larger units. If the schools were properly consolidated into larger units, the salaries of the principals of the larger units would be materially raised, without increasing this item of expenditure. In some instances, the population necessary for making a large school unit for better efficiency and economy is too scattered to justify having all the primary pupils attend a central school. In such cases, the best policy is to provide additional small primary schools within the area, as feeders to the larger central school, and to place these schools under the direction and supervision of the principal of the central school. Such a plan makes it possible to provide supervisory principals under conditions that tend to produce professional leaders. The placement of all of the middle-grade pupils of the large district in one school provides opportunities for economy and efficiency in the organization of pupils into classes. In many cases, it is economical to provide transportation to the central school, for pupils living beyond a certain distance from the school rather than to retain the separate schools.

The Policy of the Superintendent

Pollich[2] made a study of the superintendents' standards and policies in the selection, appointment, and promotion of elementary-school principals. He sent questionaries to 40 large cities in 25 states. He says: "From information supplied by 37 city school superintendents, it would appear that about one half of our large cities appoint persons from within their own school systems to elementary-school principalships, while the other one half appoint candidates from other school systems as well as from their own. Those cities which appoint elementary-school principals from other systems as well as from their own, report having appointed from 20 to 25 per cent of their principals from outside systems." While there should be opportunity for teachers with outstanding teaching and executive ability to be promoted to principalships after the standard prerequisite professional preparation has been made, the practice of appointing only persons within the school system as elementary principals is a factor in making the present average status of the principalship lower than it should be. If the elementary principalship is to be made a profession, there must be opportunity for principals to advance by going from one system to a larger system. Furthermore, it means much to a system to be continually adding new blood from the outside to the corps of elementary principals. Cities which are outstanding for the character of their principals have followed this policy.

Pollich's study shows that approximately three fourths of the junior high-school principals are promoted from elementary principals, resulting in a continual drain upon the professional leaders in elementary education. While such a condition may be best for the system in the early period of development of the junior high school, a permanent condition of this kind will work to the disadvantage of the system. The single-salary schedule, together

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[1] Norton, John K. *Salaries in City School Systems*, Research Bulletin of the N. E. A., Vol. V, No. 2 (March, 1927).

[2] Pollich, R. E. "Superintendent's Standards and Policies in Selection, Appointment, and Promotion of Elementary-School Principals" in the *Elementary School Journal*, 26:107-111 (October, 1925).

Practical Ventilation for Schoolrooms[1]

S. R. Lewis, Chicago, Ill.

The purpose of this paper is to describe a rational arrangement, which it is believed will be capable of giving the best results practicable of attainment, either when using windows for fresh-air supply or when using a supply of unheated air from other sources than windows in classroom ventilation.

The New York Commission on Ventilation has advocated windows open from the bottom, with deflectors to divert the entering air upward, and with radiation controlled by thermostats below all windows used for ventilation. It has recommended a considerable increase in direct radiation beyond that needed for structural heat losses, to care for the air change due to the open windows, and has recommended gravity vent flues with exhaust openings from the room at or near the ceiling of the side wall opposite the intakes.

The New York Commission has refrained from going into much greater detail than the foregoing. The greater detail is, of course, the province of the heating and ventilating engineer, who ought to be able to devise satisfactory physical arrangements after he has been made to understand the purpose of the arrangements, or has been told the underlying principles of the process.

The earlier field studies of the commission were restricted to comparisons of health and comforts in window-ventilated rooms on the one hand, and in mechanically ventilated rooms on the other. Having demonstrated to the satisfaction of the members of the Commission, the superiority of the window-ventilated rooms on these two counts, and pointing out that the "main difference lies in the fact that the air of the fan-ventilated room is likely to be about 2 deg. F. higher and more uniform in temperature and that the air movement in this method is considerably greater," reported p. 528, New York Commission report:

"We are forced to conclude that window ventilation with ample direct radiation, window deflectors, and adequate gravity exhaust, seems the more generally promising method for the ventilation of the classroom where local conditions permit its use." . . . "on the other hand, there will be many schools in which this method cannot be applied. Where noise and dirt and odors from the street make it inconvenient to have windows open, the use of the plenum system would, for instance, be clearly indicated."

With these few exceptions, this amounted to a rather general condemnation of mechanical ventilation in schools, and it constituted a challenge to the engineer to improve upon, or at least to duplicate, the health and comfort conditions attained with window ventilation.

The recent studies of the commission at Syracuse and elsewhere, indicate an honorable and conscientious endeavor to learn the truth. In this effort to learn the truth every heating and ventilating engineer will join with all his heart.

There seems to be some yet unproved health quality in the environment of the pupils in naturally ventilated classrooms, particularly where the air supply has not all been heated by passing over heated surfaces. Any unprejudiced observer who sees the records, the probity of which cannot be questioned, must consider them very seriously. These records seem to show evidence of a mysterious influence in classrooms which have no tempering heaters and which use gravity or window air supply, which influence seems to reduce complaints and absences from colds in the head, or which, expressed more euphoniously, reduces the incidence of respiratory diseases.

[1]Presented at the Annual Meeting of the American Society of Heating and Ventilating Engineers, New York, N. Y., January, 1928.

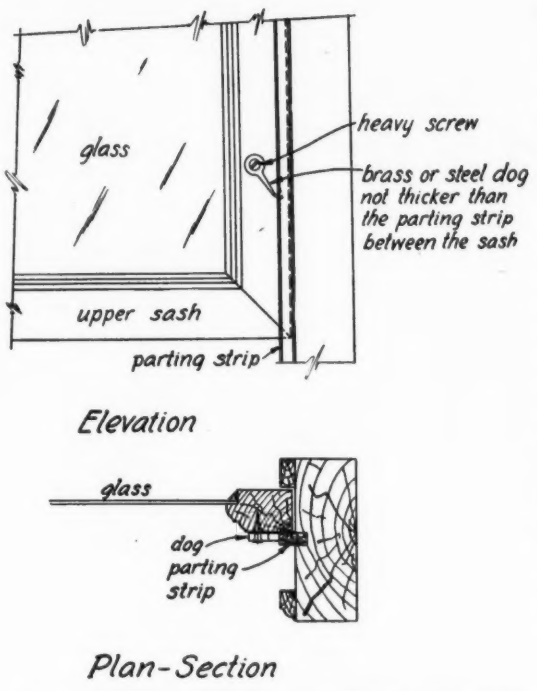


FIG. 1. SHOWING DOG FOR HOLDING UPPER SASH IN PLACE INDEPENDENT OF LOWER SASH.

Granting that the health of children in the naturally ventilated rooms is better, and assuming that it is due to some hitherto undesignated agency, the reasonably possible agencies are:

a) Consistently maintained lower temperature. This has been fairly well eliminated as the sole cause of superiority, since where the outside air supply came into the rooms without ever having passed over warm heaters the superiority persisted, even though a higher average interior temperature was maintained.

b) Uultra-violet or other invisible rays ordinarily stopped by common window glass. This has been fairly well eliminated, since even with the open-window rooms, the shields over the openings nearly always prevented any light from entering the rooms without being filtered through glass.

c) Reduced motion of air. An air change of once in 15 to 20 minutes in a schoolroom such as is in effect usually with gravity-indirect systems necessarily gives much less physical contact with the bodies of the pupils than an air change of one in 7 or 8 minutes, the usual rate when 30 cu. ft. per pupil per minute is supplied. With the reduced volume of incoming air there is much less danger of rapid cooling of an over-warm body, and so perhaps less danger of causing a person to catch cold or feel chilled. It is possible that herein lies the mysterious influence.

d) Unheated air supply. In all of the observed rooms where superiority persisted, the entering air was tempered by admixture with warmer air rather than by rubbing over hot radiators. Much of the time the relative volume of this entering unheated fresh air compared with the volume of the very hot recirculating room air was small. Yet it is possible that the mysterious influence is present in the small volume of unheated air supply carrying the "vital property" suggested by Hartmann.

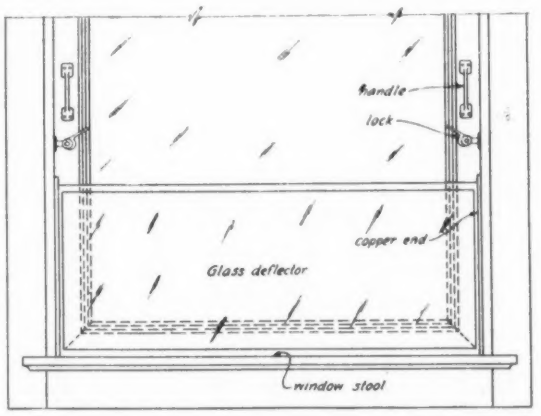


FIG. 2. ELEVATION OF LOWER SASH SHOWING HANDLES ABOVE DEFLECTOR AND SIDE LOCKS ACCESSIBLE FROM FLOOR.

e) Physical stimulation due to continual and rather rapid temperature variations. In the observed rooms where superiority was noted, even though automatic temperature control might be in evidence, there were considerable temperature variations due to manipulation of the windows and control valves. We seem to enjoy gentle breezes and we come in with flushed cheeks and tingling hands after exercise out of doors on a cool day. It is possible, though, that the mysterious influence is inhibited or nullified when the person stays for some time in a steady, uniform temperature, even though that temperature may not be too warm nor too cold for comfort.

Not much in the way of a clue to the mysterious influence outside of the five above possibilities is to be found, though age, race stock, or other conditions may yet be found unexpectedly to govern the striking results which have been noted. One must remember that Doubting Thomases had a grievous time believing that mosquitoes were the mysterious influence in malaria and yellow fever.

We are in a way to exhaust possibilities of the five reasonable hypotheses outlined as they are being attacked at several points from many angles. However, it seems worth while at this time to outline the sort of heating and ventilating plant which could, in the light of the best present knowledge, be operated so as to be most favorable to all of the conditions set forth.

These specifications may be divided into three groups, those serving small schools having up to 4 classrooms, say, those for schools having from 4 to 12 classrooms, and those for larger buildings having a considerable number of classrooms on many stories with auditoriums, gymnasiums, laboratories, etc. These divisions are arbitrary, having, however, some influence on cost, space for pipes and ducts, orientation, etc.

For the small rural school of 1 or 2 classrooms, where presumably fires will not be maintained continuously, and there would be danger of freezing—and where, incidentally, installation costs are a most important item—it is apparent that the jacketed stove and the warm-air heater with provision for the admission of an adequate supply of fresh air will continue to be the preferred means of heating and ventilation. The warm-air heater with gravity exhaust is perhaps the most practical system for rural schools of from 2 to 4 or 6 rooms. The window system of ventilation is not feasible in this type of building.

For schools of 6 classrooms or more, assume that straight-forward window ventilation, with direct steam radiation and gravity vent flues, may reasonably be installed. All of the windows along the side from which light is obtained, the left of the pupils, are to have the lower sash arranged for air introduction. The conventional sliding double-hung type of window may be used, with glass deflectors, say 12 in. high in wooden or metal frames, resting on the window stools. The upper sash should be blocked tightly in place, as they do not need to be moved. An effective method of doing this is shown in Figure 1.

There are doubtless many other easy and satisfactory methods of holding the upper sash in place independently of the lower sash. The lower sash should have means of locking in any position desired without the operator needing to send for a stepladder. The handles for moving the lower sash should be above the deflector, and the locks should be at the sides of the sash, perhaps as shown in Figure 2.

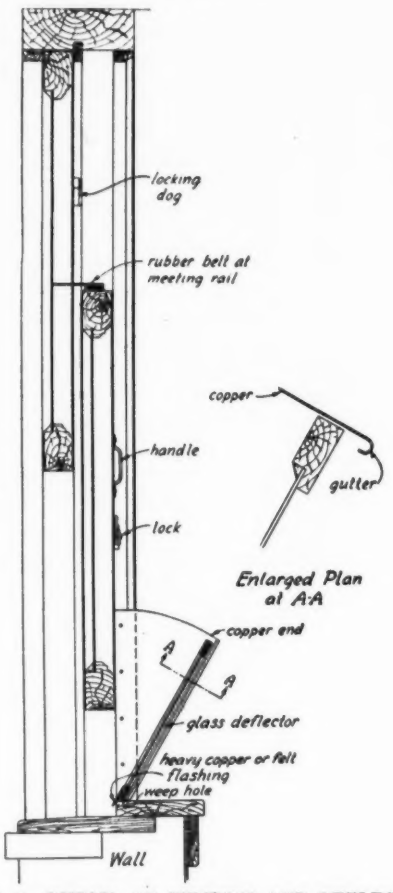


FIG. 3. DETAIL OF WINDOW AND DEFLECTOR DESIGNED TO REDUCE AIR AND STORM LEAKAGE.

The deflector should have a frame, to reduce casualties which occur with unprotected glass. The bottom should be close to the outer edge of the window stool and should drain outside, with an air-tight and water-tight bottom and ends. The ends might be of heavy sheet copper with gutters. It is desirable, though not imperative, that the angle of the deflector should be adjustable. This can be arranged easily with chains. It is desirable, though not imperative, that leakage through the crack which always occurs between the upper glass and the meeting rail be kept at a minimum. A piece of rubber belting screwed to the top of the lower sash and just touching the glass of the upper sash will accomplish this. (See Fig. 3.)

The scheme seems to demand double-hung sliding sash, with delicate adjustment of height of inlet openings.

The fundamental of the window scheme of ventilation is that there shall be under each fresh-air inlet a radiator which preferably shall have a shield in front of it, and that enough radiation to warm the entering air to some extent shall be heated at all times.

In mild weather in window-ventilated classrooms, even with thermostats (and it is unlikely that thermostats will be provided in the country) there is a great tendency toward overheating, due to excess direct radiation. Yet, with window ventilation, when there is need of any heat at all, it is surely needed under *all* windows used for ventilation. An excess amount of heat under one window inlet and none under the others is exceedingly unsatisfactory. Therefore, a more or less continuous radiator, is needed under all the intake windows, divided horizontally into several superimposed radiators rather than to have the conventional separate complete radiators under the several windows.

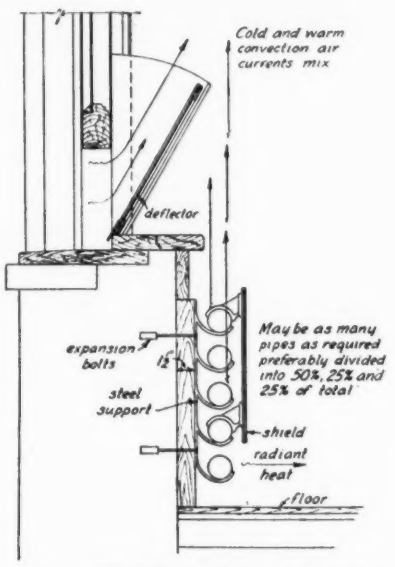


FIG. 4. SECTION THROUGH WINDOW AND RADIATOR.

Figure 4 illustrates this arrangement and also shows the shields. All direct radiation in classrooms should be shielded. These should be supported, say, 2 inches away from the hot surfaces, and should be made of two layers of metal with insulation between. A satisfactory shield can be made of No. 26 gauge galvanized steel and ¼-inch thick asbestos mill board, with bright tin against the radiator. The bottom of the shield may reasonably be kept about 6 inches above the bottom of the radiating surface, so as to permit some radiant heat to reach the feet of the children in the nearest aisle.

In Figure 5 is shown the plan of a schoolroom, with the various arrangements for an approved type of pure window ventilation. The radiation should be arranged as shown in Figure 6.

The pipe coils in Figure 6 are necessarily used with a 2-pipe system of steam or water circulation. Such an arrangement for gravity steam, requires that the returns from each room shall be brought separately to a point well below the boiler-water line before being connected together. If a vapor system is used with thermostatic traps, the return valves shown in Figure 6 may be omitted, and the traps may take their place.

If automatic temperature regulation is installed, one diaphragm valve may be installed on the boiler side of the three hand-operated supply valves shown, but these valves may not be omitted. By keeping one or the other of the three divisions of radiation shut off it is easier to prevent overheating in mild weather, even though there is a great excess of radiation for such weather.

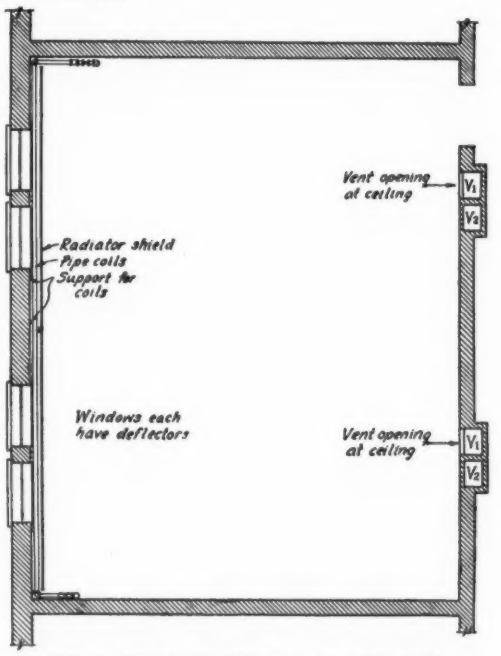


FIG. 5. PLAN OF TYPICAL CLASSROOM.

The vent flues should go out as separate flues in chimneys which extend well above the highest points of the roof. Several of these flues may be grouped together, of course, but they should be separate all the way. Metal ventilators are less satisfactory than chimneys for the vent outlets. Revolving-type metal ventilators are to be preferred to fixed-type metal ventilators. A separate ventilator should be provided for each room when ventilators are used, and they must be high enough above the roof that eddy currents or back drafts shall be avoided. The outlets from the rooms should have tight fitting, easily operated registers or dampers at the outlets, which can be closed to prevent waste of fuel when the building is not occupied.

For a larger type of schools, it is probable that the mysterious influence due to unheated air supply or reduced air volume may be gained in the following rather more simple manner:

There are to be provided adequate supply flues as well as vent flues. The partitions between these supply flues and the vent flues for at least 6 ft. of each, may be of one thickness of uninsulated sheet metal, so that either flue which is warmer may warm the cooler one. It is desirable to have at least two pairs of such flues for each standard-size classroom, since it is then easier to secure diffusion without drafts. A better arrangement for warming vent flues is to install small radiators in them, accessible through doors in the flues, and protected by canopies or offsets against moisture falling from

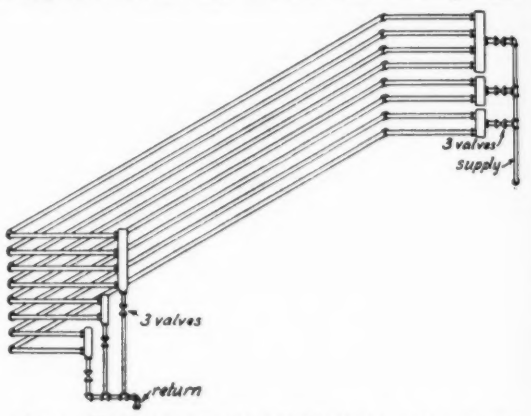


FIG. 6. TYPICAL STEAM CONNECTIONS FOR PIPE COILS, 50-25 PER CENT AND 25 PER CENT.

above. The old-time gravity-indirect plants of this general type used small coal or gas-fired stoves to warm the vent flues and so to insure a steady draft up them.

The vent openings from the rooms are preferably at the floor and adjacent to the supply flues, so that they may be heated a little, so as to have draft. The supply flues are arranged with indirect radiators at their bases with cold-air intakes and by-pass dampers, either automatic or manual, as shown in Figure 7.

The indirect radiators are heated nearly all of the time, and control of ventilation is by manipulation of the mixing damper which allows more or less unheated air to enter, induced by the injector-like effect of the warm air from the indirect radiator. The same pipe-coil arrangement of the radiation in the room, under the windows, shown in Figure 6, is desirable, though it is not necessary with this plan to have any great excess amount of direct radiation. The shields in front of the direct radiation are equally important.

With this scheme it is desirable probably to have the windows so arranged that they can be lowered easily from the top, for additional fresh-air intakes or for outlets for surplus heat when desired. When the wind direction permits, an extension thermometer projecting into the supply flue is highly desirable so that the temperature of the entering air may be observed and regulated. The vent openings should have registers or effective arrangements so that they can

(Continued on Page 158)

Budgeting in the Small School

Lynn E. Castle, Stuart, Iowa

II. Gathering and Classifying Information

"Like it! I didn't go on the school board to like it. Went on to cut taxes. Four dollars an acre and going up every year. Something's got to be done. I believe in good schools, but not in mortgaging our homes to have 'em. Something's wrong somewhere."

"But I don't understand. I thought your district had a budget system and regulated expenses systematically."

"Budget be hanged. A budget may be all right in a business concern or a family, but it won't work in a school district. We tried it! Brown was elected superintendent on the strength of his talk about saving us lots of money. He had the cost of running the district for a year all worked out on a piece of paper. Showed us how we could cut here, and reorganize there, and get along with five thousand dollars less than we had spent the previous year, if only we would follow a budget. How much do you think we spent that year?"

"You should have saved something. Of course it takes time."

"It cost six thousand dollars more than the year before, and nobody could explain how it happened. We ran short of money the next fall before we got our semiannual apportionment, and had to borrow money for current expenses, and raise the taxes *ten mills* for the next year! Taxpayers hollered their heads off. Some of 'em haven't stopped yet. Superintendent Brown's work in the schools was hampered by prejudice on account of the failure he had made with the budget, and the school board is the goat."

"Didn't Brown know all the time you were spending more than the budget allowed?"

"Of course not. Secretary buys all the supplies—has for twenty years. Bill Jones, a contractor, is chairman of the building-and-grounds committee, and looks after repairs. The president hires the teachers, with the superintendent's help, and Ed Green, in the bank, is chairman of the finance committee which audits all the bills at each meeting. It's Brown's business as superintendent to run the school, not to keep track of money matters. We have the work pretty well divided up to save everybody's time."

"But didn't the secretary know how the expense was running from month to month, and which items were exceeding the budget estimates you set up at the beginning of the year?"

"How could he tell? Some of the bills didn't come in till the end of the year, and as to keeping track of separate items, his books provide only for a division of expense into the three main funds of salaries, supplies, and contingent expenses. I tell you a budget may be all right in a big business concern where they have about a dozen bookkeepers to record every transaction and keep cost accounts right down to a hair, but in a school district . . . ."

"Now that's strange. Over here at the county seat I understand they have been running on a budget for three or four years, and one of the members told me they were saving money every year by careful planning and spending. Why not drive over there some evening and see how they do it?"

"I'm willing, but I don't think it will do any good."

"Good evening, Mr. Wright. We are members of the school board at Tarrytown. We have come to hear about the system of budgeting school expenses, and see the cost-accounting system which furnishes you the information on which to build your yearly estimates."

"I'm glad to see you, gentlemen. The members of the board here believe in up-to-date business methods in the management of school finances. We try to save on the items which do not directly influence instruction, so that we can afford to hire better teachers and buy better materials for actual teaching."

"Very good theory, but how do you hold down the cost of supplies, repairs, and equipment? Every month new demands come piling in. The board is obliged to be constantly on the defensive else our taxes would go sky-high."

"By being on the defensive as a board, do you feel that you are getting the largest educational return for every dollar?"

"That's just the trouble. We can't be sure. The worst of it is that we never know when a new demand for money is going to arise. If I ran my business that way I'd be bankrupt in six months. I have to know the facts and anticipate my needs six months to a year in advance."

"Exactly what we are attempting to do with school business, gentlemen. Did the secretary tell you about our purchase order and the cost-accounts system which provides the information on which to base our yearly budget?"

"He showed us the triplicate purchase order and voucher form[1] but referred us to you about the cost-accounting system.

"We classify expenditures under about ninety cost-account headings, in a 'visible head' loose-leaf notebook. My office clerk makes out a monthly report of the amount charged to each of these accounts, for the regular board meeting. At the end of the year, also, these detailed costs furnish valuable data on which to base the budget estimates for the coming year."

"I thought the bills always went to the secretary."

"Our purchase order was designed to give the necessary information both to the superintendent's office, where the cost accounts are kept, and to the secretary, who must classify expenditures under a few general headings for the state budget board. It would save bookkeeping, of course, if both accounts could be kept together. You recall that a yellow invoice and voucher, Form 1, bearing a carbon impression of the order is sent with the original purchase order to the dealer, who renders his bill on this form. When the yellow invoice and voucher sheet comes back to the superintendent from the dealer, as his official bill or invoice, the prices are copied on the pink file copy of the same order, by a clerk in this office. This pink file copy, which was a duplicate of the original order, is now also a duplicate of the dealer's invoice. It also bears a record of the receipt of the goods, their condition, proper count, etc., signed by the person who unpacked or received them within the school system. Two days before each monthly board meeting, I canvass these bills, see that they bear a signature showing responsibility for receipt and unpacking of the goods, and sign the voucher certifying that the bill is ready for payment."

"How in the world can you tell whether a box of chalk is to be charged to primary-department supplies for the purpose of instruction, or to janitor's supplies? When you get a bill for lumber, how do you know whether it is being resold to the pupils in the manual-training shop, or used to make bookshelves for one of the teachers as a permanent part of the equipment of the school?"

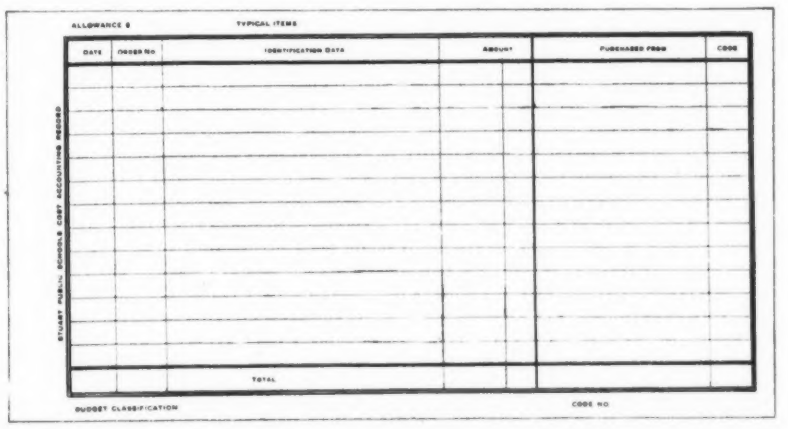
"A loose-leaf sheet is kept for each of the ninety headings under which we classify expenditures (Form A). The amount of each bill is posted to the proper sheets, according to the function, object, or department for which the money was spent."

"But how can you keep track of ninety different items? Why, I didn't know there were as many as ninety different functions and departments in the average school system!"

"It is easier to classify expenditures *accurately* under ninety headings than under a smaller number of divisions. You see, there are really eight main classifications according to function or use. These functional headings were worked out several years ago by the U. S. Bureau of Education and a committee of school accountants, for the larger cities. These headings are Administration, Instruction, Operation, Maintenance, Auxiliary Agencies, Fixed Charges, Debt Service, and Capital Outlay. These main divisions are designated by the 100's digit in our account numbers, the 100's for Administration, 200's for Instruction, etc. Within each main division the numbers also have a more or less definite significance. For instance, the numbers ending in seven indicate supplies. The different 10's digits are used to denote departments or subordinate functional classifications. Many of the final divisions, however, are somewhat arbitrary. We try to keep an account for each new department or activity in the school, in order to determine whether it is worth the cost. Many of the divisions make comparisons possible between departments or activities. The aim is to keep each cost-accounting unit small enough so that it can be *definite*. It has taken five years of experimenting and changing to develop the present classification, and we shall probably make some minor readjustments each year. If you will examine the list, you will see that it is possible to determine pretty definitely the amount needed for each item next year by looking up the amount expended on the item for the last two or three years, and basing our estimate on these facts, considered in the light of our plans for the coming year."

"It looks as if your budget scheme was nothing more or less than the superintendent's yearly plans for the work of the school, translated into terms of dollars and cents. Isn't that what it is?"

[1]Illustrated in first article of this series, in the June issue of the JOURNAL, p. 55.



FORM FOR LOOSE-LEAF SHEET FOR SEPARATING ITEMS FOR BUDGET CLASSIFICATION.

"Exactly. I am able to present yearly plans in these terms because I have the financial facts of previous years to lay aside the educational results which the money bought. And all these facts are available in sufficient detail and definiteness to be of actual use. Salaries, of course, are the earliest item to be determined. They are based on the general administrative and instructional plans for the year. In a small school such as this, there is very little classification of teachers' salaries according to function, although departmental salary costs can be readily found from our records at any time. Supplies are carefully classified according to function and department. By having a separate account for each, we are able to work out the amount needed under each heading, listing the supplies specifically in detail. Most of these lists are made out by the heads of departments, and approved or amended by the superintendent. This gets rid of most of the guesswork. If your divisions of expense are too general, covering too large a variety of purchases, such detailed requisitioning is impossible.

"Do you mean to say that all your purchases are listed in detail at the beginning of the year? How can you or anybody else tell all the things which must be bought, as far in advance as that?"

"That is exactly what we have been doing here for the last two years. However, I must admit that the board allows a small "cushion" fund here and there in each functional division, to provide for the expenses which cannot be foreseen. You will find these called "Miscellaneous Administration Expense," "Other Operation Costs," and the like. If you sum them up, however, you will find that they constitute a very small part of our yearly budget, and the cost records show a surprisingly small portion of them used up at the end of the year. Each year we are able to determine our expense with more accuracy and use these "cushion" funds less."

"Would it not be possible to combine some of the classes of expenditure and reduce the number of divisions of your budget to advantage? It seems to me that twenty-five or thirty would provide ample chance for definiteness."

"After we get more accustomed to the system, and discover the items which need not stand alone, we can combine many of them. The more familiar we are with the items of expense included in each class, the easier it would be to combine them. It is safer in the early stages of a budget system to divide your costs too minutely, than to find yourself trying to unravel the items in a "catch-all" account of the previous year, when you are attempting to find a basis for the next year's estimates."

"Yes, I can see that it would be hard to remember what goes under each heading. How in the world do you classify an item under the same heading each time it appears? For instance, how can you remember whether to classify blackboard crayon under janitor's supplies, instructional supplies, or to charge a certain amount of it to each of the special departments?"

"Now you have struck one of the most difficult tasks of cost accounting. It all depends on the clear definition of the cost-accounting unit or budget classification heading, and a clear understanding of the use to which the item of expenses serves. The state of New York issues an official bulletin of instructions in which each heading bears a list of typical items which should be classified under it, besides a very clear and comprehensive definition of the meaning of the heading or division. It would be worth while to write to the New York state department for this bulletin.[2] The Michigan State Teachers' Association has also worked out a system of cost accounts which is very complete.[3] You will find more information in a recent book by Pittenger.[4]

"The time will soon come when each state will have a uniform system of costs accounts in enough detail to make comparisons possible between schools. Then our budgeting will have the added guidance of the experience of hundreds of schools of similar size and conditions. Until this state-wide system is adopted, we can do nothing more than to depend on our own previous experience."

"I should think your cost accounts and the record of your experiences with the budget would be of great value in the working out of a uniform system such as you suggest. I'm going to tell the fellows at home about the plan. If we decide to give it a trial, we shall probably call on you people for suggestions. Thank you very much for your explanation."

"You are welcome. We are not satisfied with our system yet, but we shall continue to experiment."

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[2]Case, H. C., Handbook of Instructions for Recording Disbursements. C. F. Williams and Son, Albany, N. Y., 1916.

[3]Mich. State Teachers' Ass'n., Report of Committee on Uniform Costs and Budgeting, Arthur B. Moehlman, chairman.

[4]Pittenger, B. F., An Introduction to Public School Finance, N. Y., 1925.

The Seattle School Case and a Court Decision

For some months the board of education of Seattle, Wash., has been in conflict with the American Teachers' Federation, over the question of unionizing the teachers of that city as a branch of the American Federation of Labor. A group of high-school teachers, in order to compel a salary raise some time ago, joined the union and thus secured the support of the labor element in their contention.

The board of education, for reasons of its own, did not accede to the salary raise, and at the same time advanced the idea that it was illogical for a public-school teacher to place herself under an authority other than the regularly constituted school-administrative body. The labor representatives differed quite radically from this viewpoint. The State Labor News published at Seattle in addressing itself to the board of education said:

"The right of an American citizen to become a member of any legally constituted organization representative of his or her particular vocation or profession, is so well established as to be unquestioned, therefore, your recent action, wherein you seek to deny this right to the Seattle high-school teachers, shocks and amazes us. The primary and fundamental principle of democratic-republican government is the recognition of equal rights under the law to all citizens, and special privileges to none."

The Seattle board of education, however, forced the issue by inserting a clause in the teachers' contracts for the ensuing year, which read: "I hereby declare that I am not a member of the American Federation of Teachers, or any local thereof, and will not become a member during the term of this contract." Immediately the labor leaders secured an order from the court enjoining the board from carrying out this clause, and asking its elimination. The case was carried to the superior court, and there decided in favor of the board of education.

The court in reviewing the case in hand and in discussing the points of law involved in the same brought to the surface some pertinent citations. These not only define the scope and function of the board of education but also set forth the rights of the teacher in accepting or rejecting employment. In an Illinois case the court held that "no person has a right to demand that he or she shall be employed as a teacher. The board has the absolute right to decline to employ or to reemploy any applicant for any reason whatever, or for no reason at all. The board is responsible for its action only to the people of the city."

In further discussion of the subject the court says:

"It is no infringement upon the constitutional rights of anyone for the board to decline to employ him as a teacher in the schools, and it is immaterial whether the reason for the refusal to employ him is because the applicant is married or unmarried, is of fair complexion or dark, is or is not a member of a trades union, or whether no reason is given for such refusal. The board is not bound to give any reason for its action. It is free to contract with whomsoever it chooses. Neither the Constitution nor the statute places any restriction upon this right of the board to contract, and no one has any grievance which the courts will recognize simply because the board of education refuses to contract with him or her."

The court then discusses the case in the following language:

"I think it must be conceded by all that the teachers referred to in the instant case, if they so desire, have the legal right to join the American Federation of Teachers, which was organized as stated, for the purpose of 'promoting the general welfare of its members and providing a medium for the study and discussion of school problems in order to better equip its members for the performance of their duties as teachers in the public schools.' This right is guaranteed to them both by the Constitution and by the statute.

"The question then is, did the exercise of this lawful right on their part in thus joining the American Federation of Teachers deprive them of any vested, legal right to be employed to teach in the public schools of Seattle for the ensuing year.

"Admitted to be qualified and efficient, did they have a legal right to demand that they be selected and employed by the defendant board of directors for the coming year any more than the board of directors had the legal right to demand that they teach for the ensuing year if they did not desire so to do?

"Freedom of contract demands that there be granted and preserved both to the employer and the employee the same freedom of choice to enter into and create that relationship. The relationship thus created by contract of employment is of necessity both mutual and voluntary. One desiring employment cannot as a matter of right demand that another give him employment any more than one who is in need of the services of another can demand that the latter enter his employ. These are reciprocal rights which cannot be abridged by legislative enactment or judicial decision."

Judge Howard M. Findley in dissolving the restraining order and dismissing the action, bases his decision on three points, as follows:

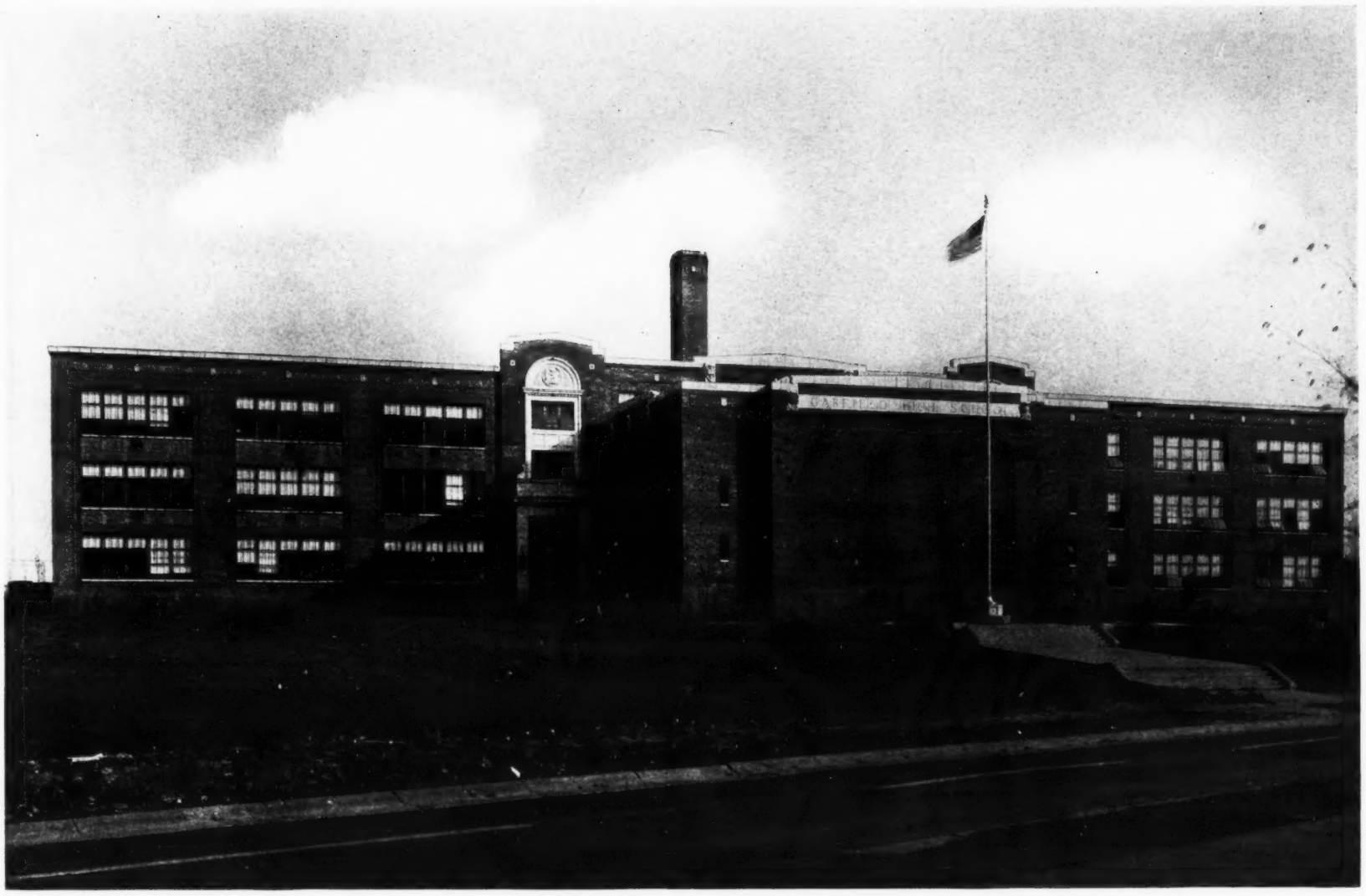
"*First:* The vocation of one teaching in the public school is of a public character, under the absolute control of the state and its governmental agency, the defendant board of directors, and it is for the latter to determine and prescribe the conditions under which those whom it selects may teach in said schools.

"*Second:* It is not the prerogative of the court to pass its judgment upon the merits or demerits, wisdom or lack of wisdom of matters which by statute are left to the discretion of those constituting one of the governmental agencies of the state.

"*Third:* The adoption and enforcement of the resolution in question is within the powers expressly delegated to the defendant board of directors by the legislature, and contravenes neither constitutional nor statutory enactment.

"For which reason, the restraining order, heretofore issued in this case, will be, and the same hereby is dissolved and the action dismissed."

The decision determines an important question which has arisen in the administrative procedure of the schools of the land. While the laws of one state may differ with those of another state, there seems to be a substantial uniformity in the interpretation of the authority of the board of education on the one hand and the rights of the teacher on the other, and the Seattle decision simply restates and reaffirms that interpretation of the law governing the contractual relation that must necessarily be observed.



EXTERIOR VIEW, GARFIELD HIGH SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

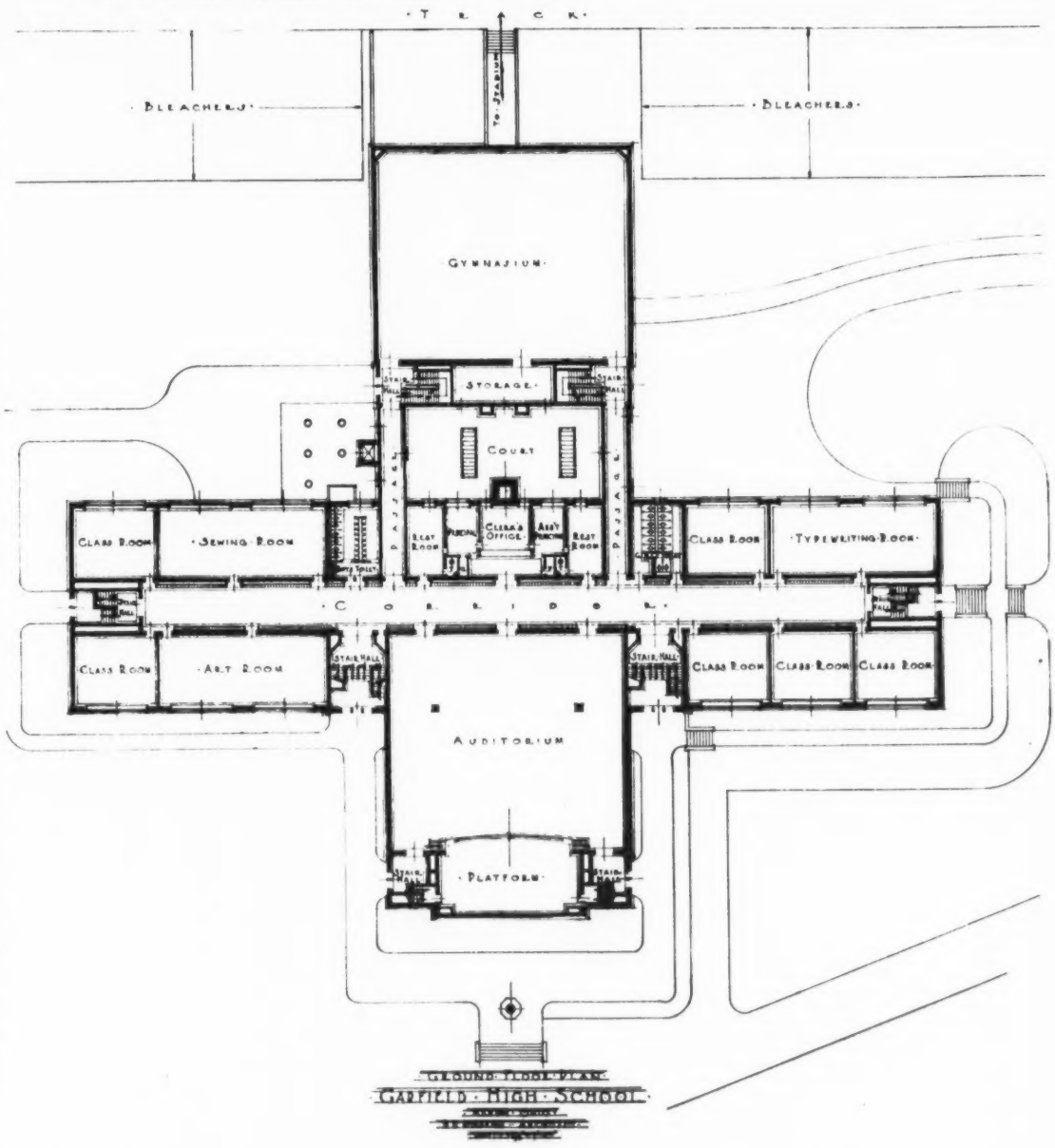
THE BUILDING PROGRAM OF THE AKRON, OHIO, SCHOOLS

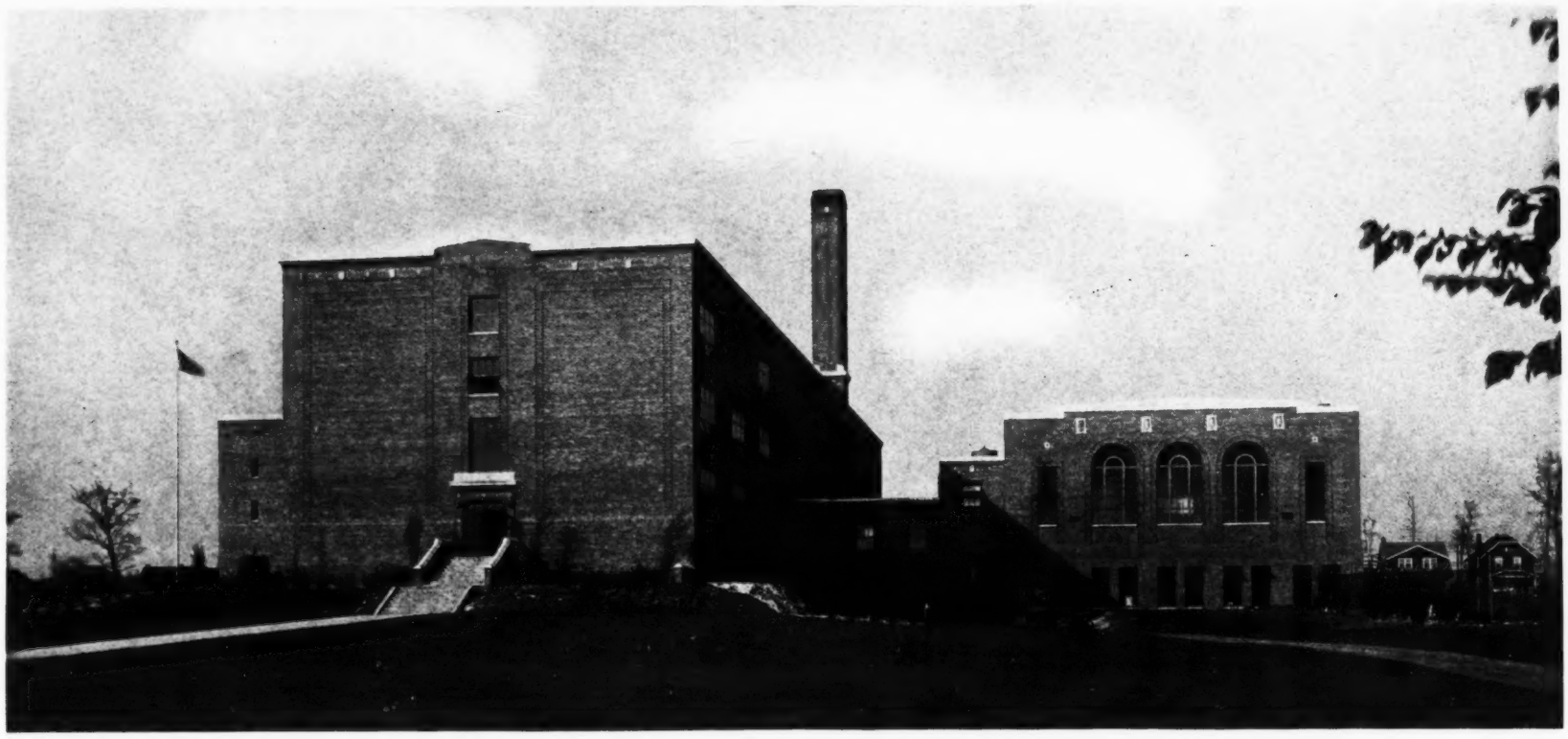
By Ruth Dawson

The plans of the Akron, Ohio, building program follow the growth and change in education and emphasize the ever-increasing need to fit the modern school to the needs of the modern child. Resulting from the desirability of compactness and attractiveness, the school is, today, both practical and ornate. The Akron plan calls for the construction of platoon schools. The department of architecture under the supervision of M. M. Konarski, chief architect, is maintained by the board of education. The office has been in existence about fifteen years; during the past eight years Mr. Konarski has been in charge. The office is maintained by proceeds from bond issues and is operated entirely aside from regular school expenses.

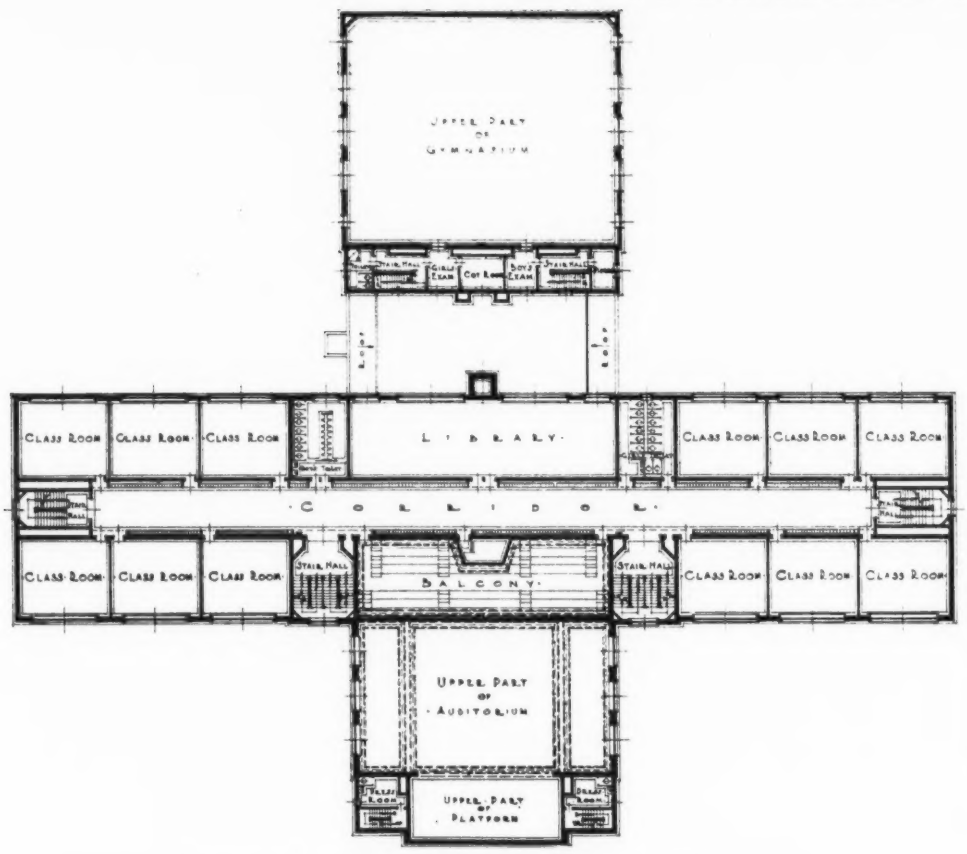
It has been the policy of the board to purchase grade-school sites of a minimum of four or five acres so that ample playground space for community use is provided. The general plans for buildings follow the regular outline for platoon schools with the rooms arranged so that one group of children occupies the home rooms while another group occupies the special-activity rooms. The home rooms are simply regular classrooms, and the latter include a gymnasium large enough to accommodate two classroom units, or 80 pupils, an auditorium to seat 160 people, and special rooms to accommodate 40 pupils each.

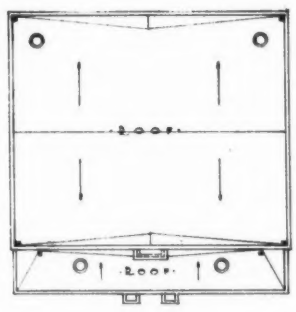
The building plan centers the auditorium and gymnasium because all pupils go there. This saves time and energy and reduces travel. All other special rooms are on the lower floor while the home rooms are on the second floor in the regular two-story plan. The gymnasium in this location adds an architectural feature in the front of the building and is also high and dry and situated where there is plenty of light, air, and sunshine.





SIDE VIEW, GARFIELD HIGH SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.





FIRST FLOOR PLAN, GARFIELD HIGH SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

The auditorium is built to accommodate approximately 160 people. The space is adaptable for the two classroom units or 80 pupils, and is practical for community meetings in the school district. This phase of the plan saves space and offers a monetary return on the investment.

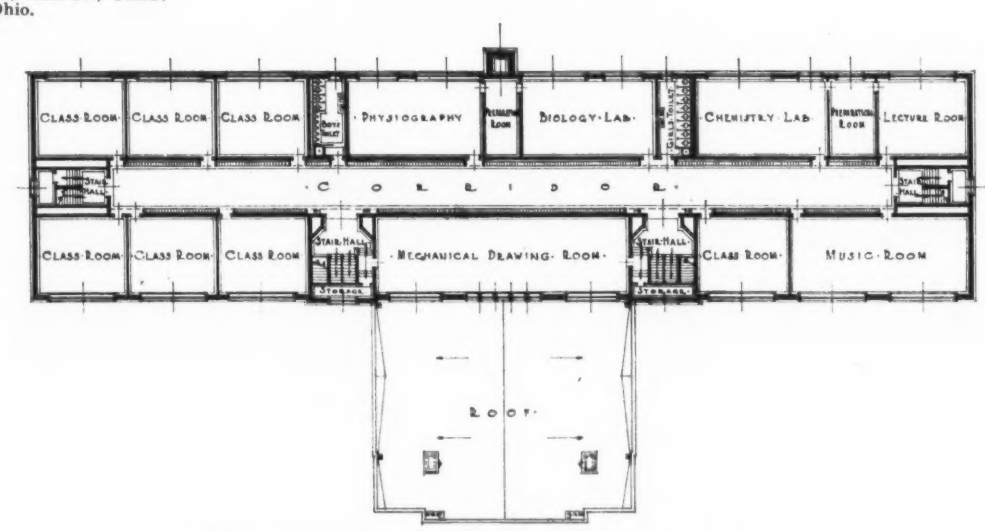
The special rooms have built-in cabinets and cupboards according to the needs of the subjects. Individual metal drawers are used to hold the pupils' work.

The plan also centers the office of the principal, and provides a clinic and a restroom.

In Akron the exterior building material used is almost entirely face brick, due to the fact that the city is in the heart of the brick industry. For decorative purposes, terra cotta is considered preferable to stone as the terra cotta has a tendency to keep clean in the bituminous-coal-burning district. Stone is inclined to absorb the soot readily. The use of terra cotta affords an opportunity for introducing color which cannot be obtained in stone.

With the completion of each new building, the program calls for landscaping of the grounds. This is done not only for the decorative appearance alone, but for sanitary reasons also as the shrubbery and grass help to keep the dust out of the school.

Since 1922, the building committee has completed the following schools in Akron: The King, 1922, elementary; Crosby, 1923, elementary; Rankin, 1926, elementary; Garfield, 1926, junior and senior high; Hotchkiss, 1927, elementary; Spicer, 1927, elementary; Forest Hill, 1926, six grades. At present, the department is working on the David E. Hill school, a 32-unit elementary, and the Andrew Jackson, 28-unit elementary school.



SECOND FLOOR PLAN, GARFIELD HIGH SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

EXTERIOR VIEW, CROSBY SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

CONSTRUCTION DATA ON A GROUP OF AKRON, OHIO, SCHOOL BUILDINGS

M. M. KONARSKI.....
.....Architect for the Board of Education
THOMAS W. GOSLING....Superintendent of Schools

CROSBY GRADE SCHOOL

Date bids received	April 17, 1923
Date contract awarded	April 24, 1923
Date construction started	April 30, 1923
Date construction completed	Jan. 1, 1924
Date building occupied	Jan. 25, 1924

Site

Dimensions	293.8 by 211 ft.

Building

Use	Elementary
Number of Rooms:	
Classrooms	20
Library reading room	1
Fine-arts room	1
Music room	1
Office	1
Clinic	1
Teachers' room	1
Auditorium	36 ft. 9 in. by 43 ft. 1 in.
Seating capacity	200
Gymnasium	64 ft. 6 in. by 40 ft. 4 in.

Design and Construction Materials

Exterior design	Modern
Exterior facing	Brick
Exterior trim	Terra cotta
Construction material	Concrete
Corridor and stair finish	Yellow pine
Classroom finish	Yellow pine
Auditorium finish	Yellow pine
Gymnasium finish	Yellow pine
Finish of toilet rooms	Yellow pine

Mechanical Equipment

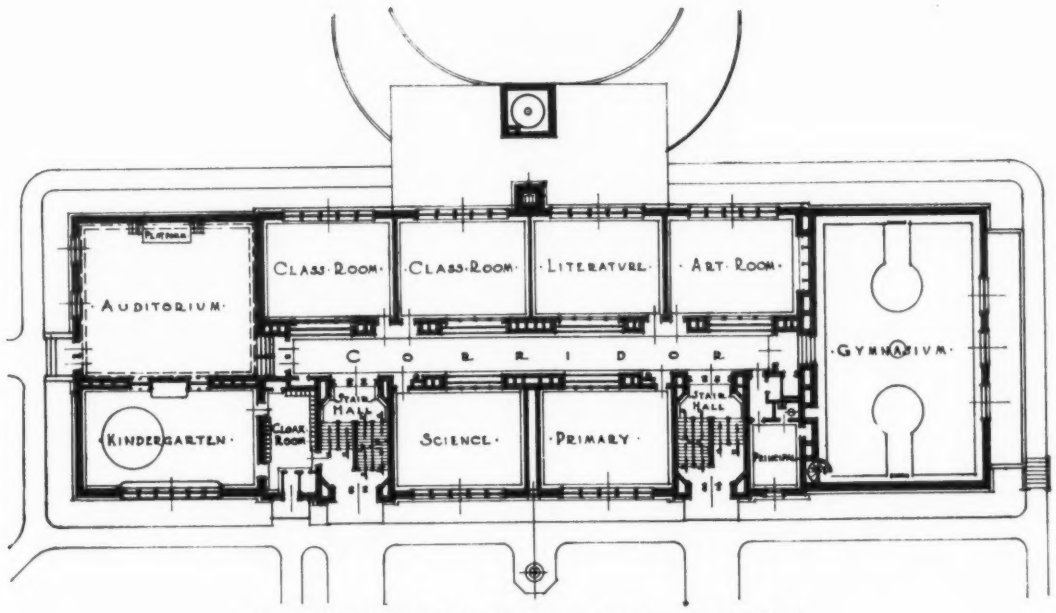
Type of heating and ventilation	Hot air
Temperature control	Poryers
Electrical equipment	Mechanical
Plumbing and sanitary equipment	Conforming to state code

Cost and Pupil Capacity

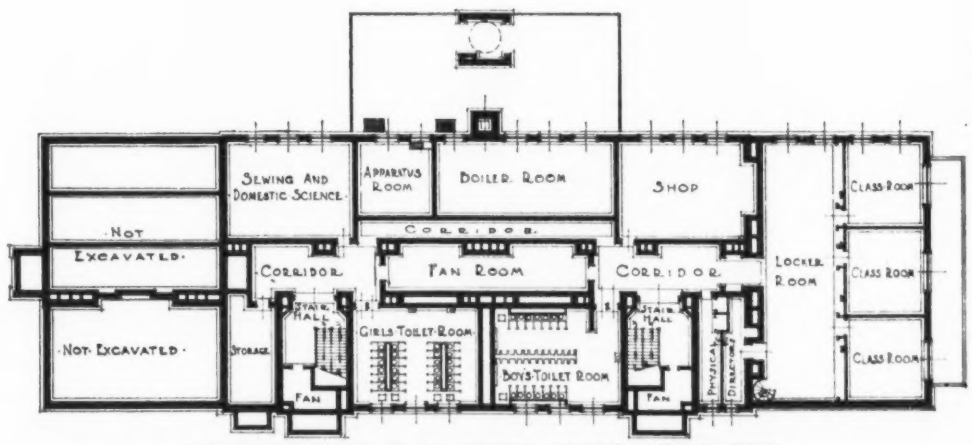
Pupil capacity of building	956
Cost of building	$231,491.99
Cost of equipment	$ 5,267.30
Total cost	$236,759.29
Cost per cubic foot	$ .411
Cost per pupil	$ 242.15
Total cost per pupil	$ 246.558

GARFIELD HIGH SCHOOL

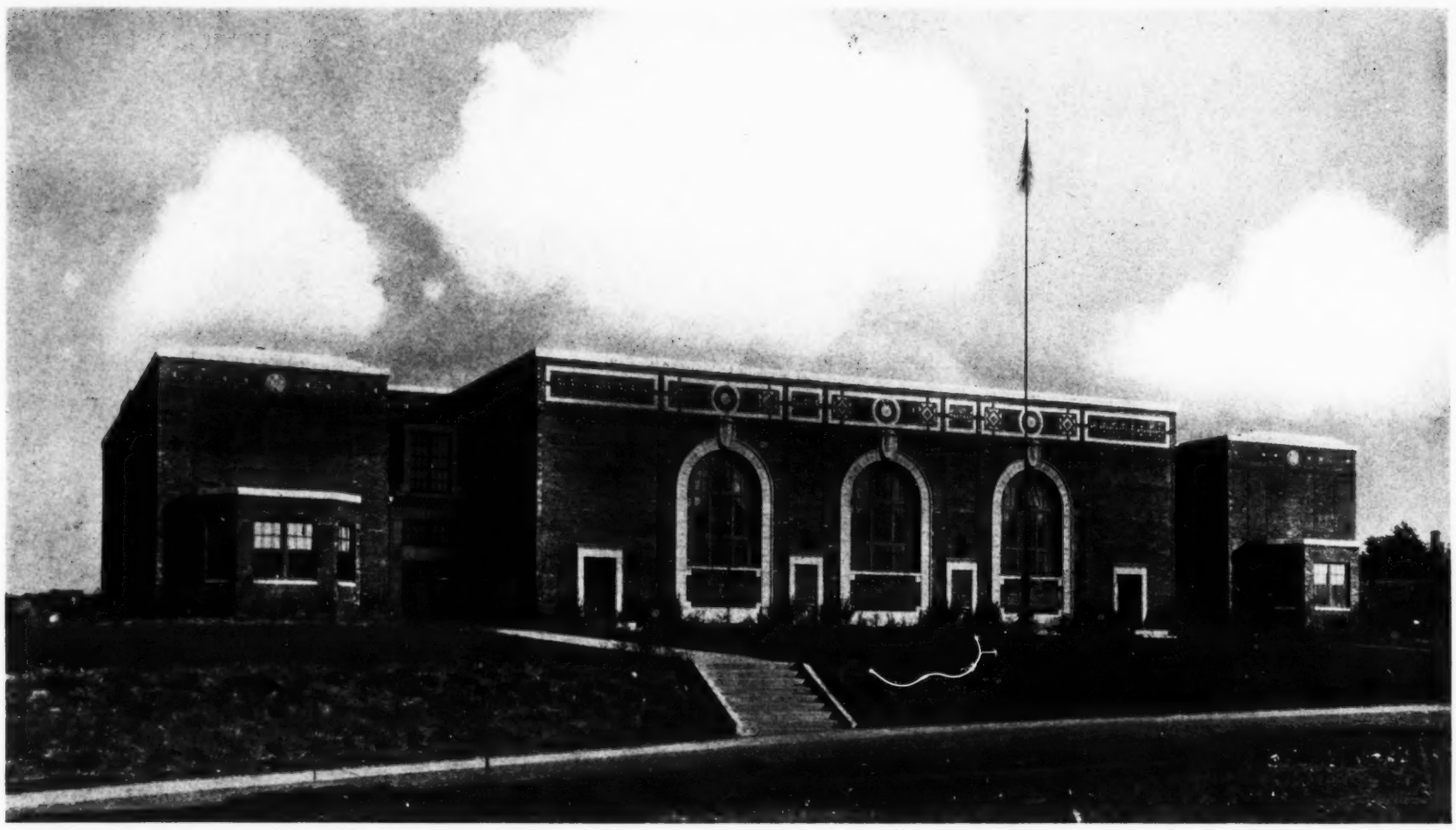
Date bids received	May 1, 1925
Date contract awarded	May 28, 1925
Date construction started	June 1, 1925
Date construction completed	Sept. 1, 1926
Date building occupied	Sept. 22, 1926
Working days required	455



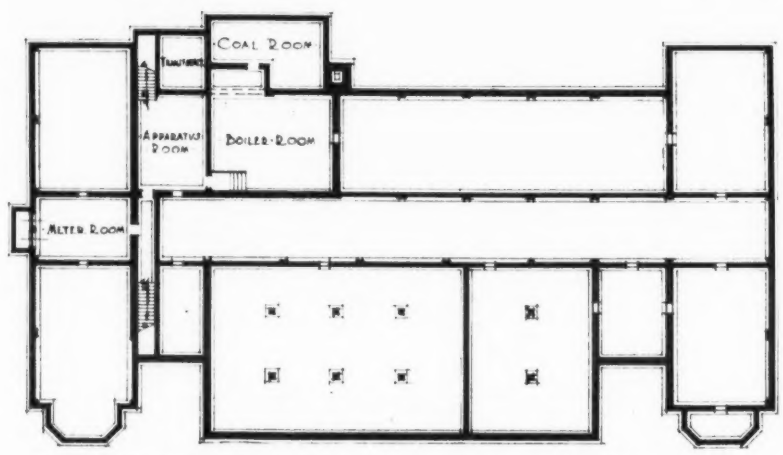
GROUND FLOOR PLAN, CROSBY SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



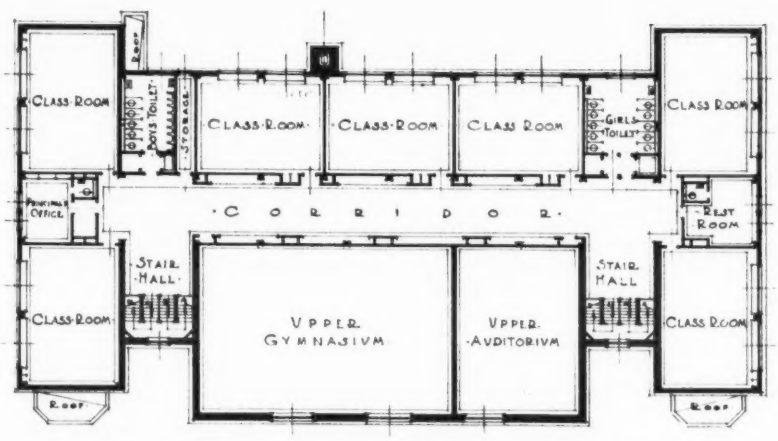
BASEMENT FLOOR PLAN, CROSBY SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



EXTERIOR VIEW, H. V. HOTCHKISS SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



BASEMENT FLOOR PLAN, H. V. HOTCHKISS SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



FIRST FLOOR PLAN, H. V. HOTCHKISS SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

Site

Dimensions ..... 680 by 540 ft.

Building

Use ..... Junior-senior high school
Number of rooms:
- Classrooms 40
- Commercial rooms 2
- Laboratory rooms 3
- Library reading room 1
- Study room 1
- Fine-arts rooms 2
- Music room 1
- Offices 3
- Clinic 1
- Teachers' rooms 2

Auditorium ..... 75 ft. 8 in. by 69 ft. 6 in.
- Seating capacity 1,000

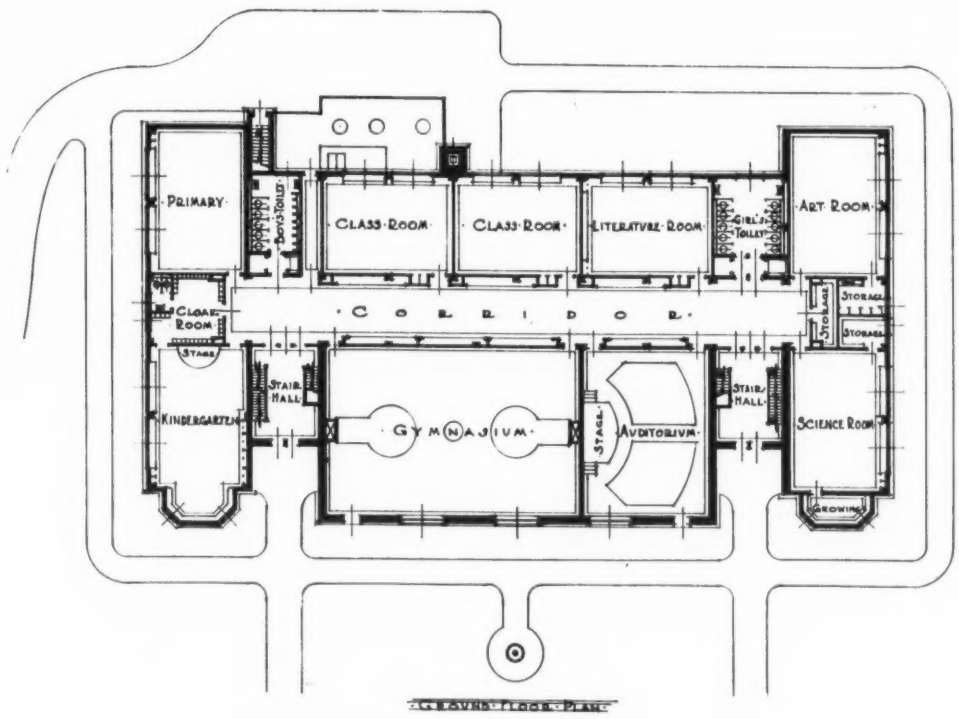
Gymnasium ..... 67 ft. ½ in. by 81 ft. ½ in.

Design and Construction Materials

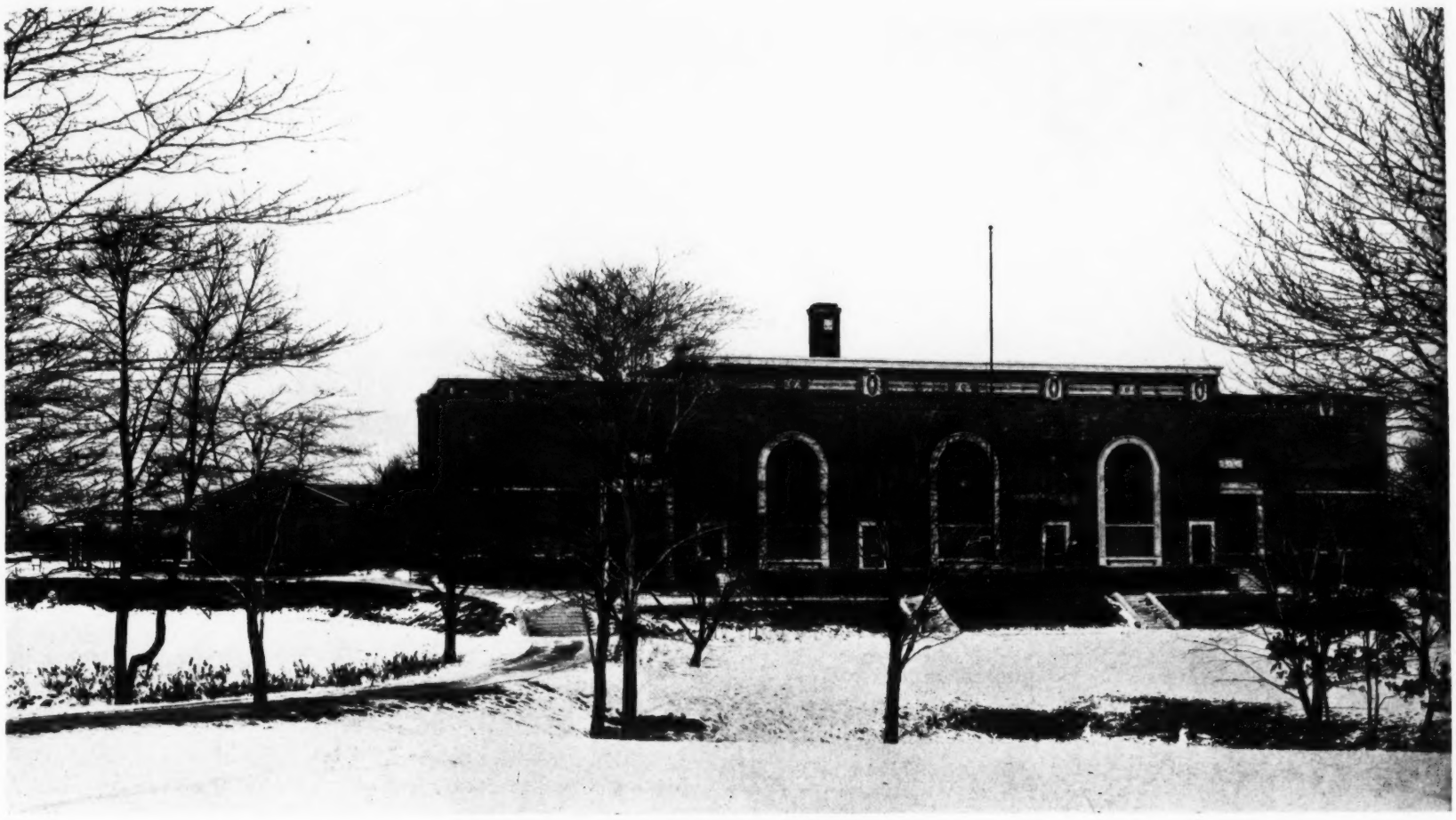
Exterior design ..... Modern
Exterior facing ..... Brick
Exterior trim ..... Terra cotta
Construction material ..... Steel and concrete
Corridor and stair finish ..... Oak
Classroom finish ..... Oak
Auditorium finish ..... Oak
Gymnasium finish ..... Oak
Finish of toilet rooms ..... Oak

Mechanical Equipment

Type of heating and ventilation ..... Steam and unit vents
Temperature control ..... Johnson Service
Electrical equipment .....
All mechanical equipment, including vacuum sweeper and ash hoist.



H. V. HOTCHKISS SCHOOL, AKRON, OHIO.
M. M. Konarski, Architcet, Akron, Ohio.



FRONT ELEVATION, KING SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

Plumbing and sanitary equipment.....
.....Conforming to state code

Cost and Pupil Capacity

Pupil capacity of building	1,817
Cost of building	$539,447.09
Cost of equipment	$ 65,507.99
Total cost	$604,955.08
Cost per cubic foot	$ .323
Cost per pupil	$ 296.88
Total cost per pupil	$ 332.93

H. V. HOTCHKISS GRADE SCHOOL

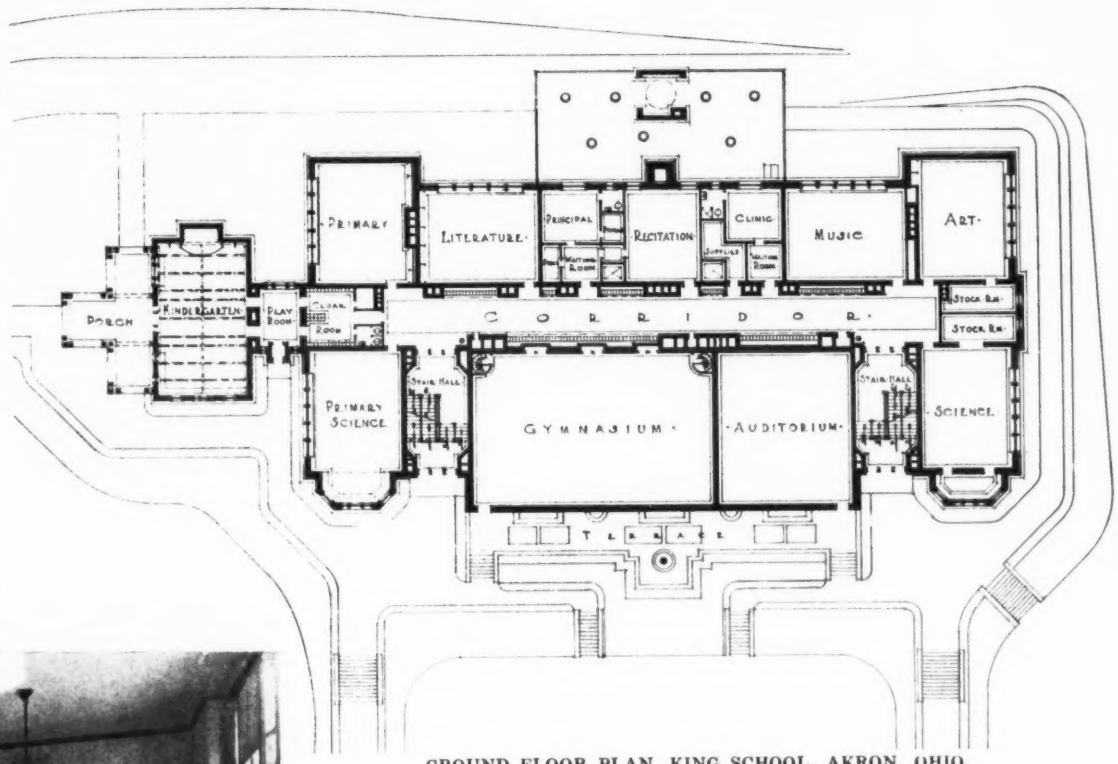
Date bids received	Aug. 13, 1926
Date contract awarded	Aug. 16, 1926
Date construction started	Aug. 23, 1926
Date construction completed	July 1, 1927
Date building occupied	Sept. 23, 1927
Working days required	285

Site

Dimensions	350 by 320 ft.

Building

Use	Elementary
Number of rooms:	
Classrooms	10
Library reading room and librarian's office	1
Study room	1
Commercial-art room	1



GROUND FLOOR PLAN, KING SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

SCIENCE ROOM, KING SCHOOL, AKRON, OHIO.

Music room	1
Office	1
Book storage	3
Teachers' room	1
Auditorium	28 ft. 9 in. by 39 ft. 4 in.
Seating capacity	120
Gymnasium	58 ft. 9 in. by 39 ft. 4 in.

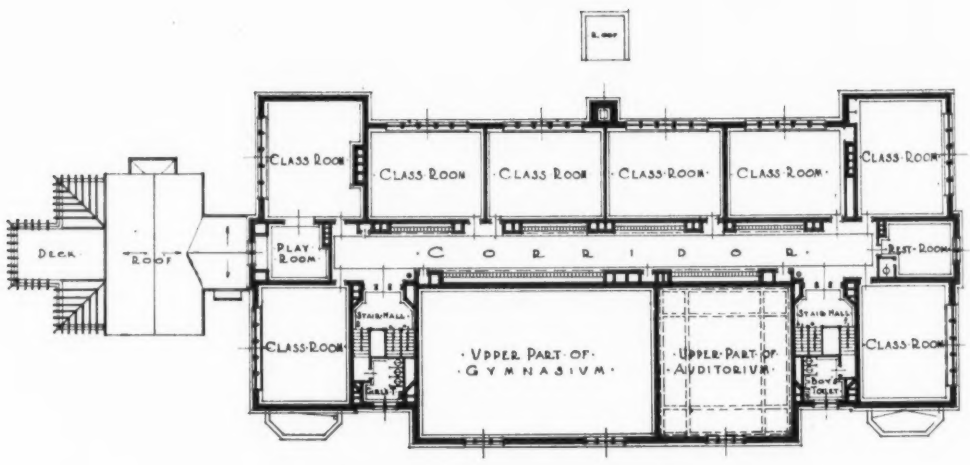
Design and Construction Materials

Exterior design	Modern
Exterior facing	Brick
Exterior trim	Terra cotta
Construction material	Steel and concrete
Corridor and stair finish	Yellow pine
Classroom finish	Yellow pine
Auditorium finish	Yellow pine
Gymnasium finish	Yellow pine
Finish of toilet rooms	Yellow pine

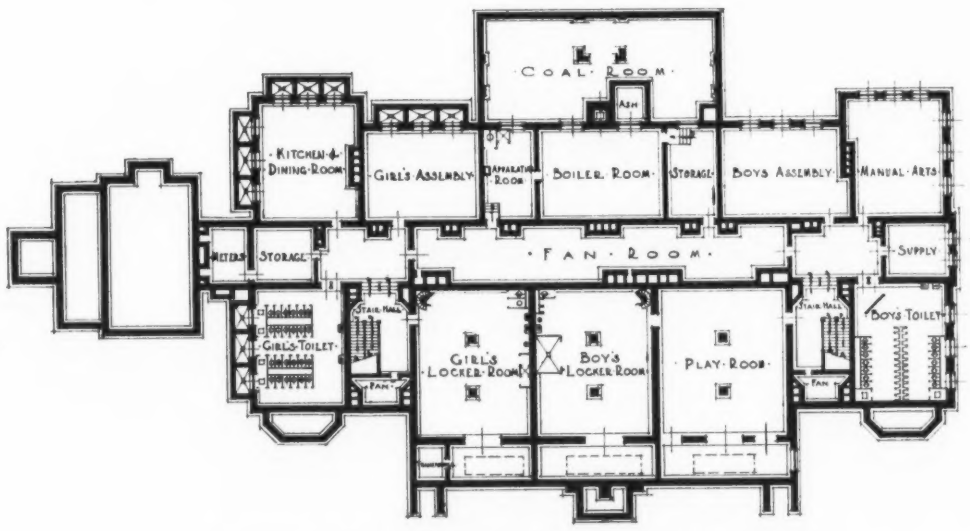
Mechanical Equipment

Type of heating and ventilation	Steam and unit vents
Temperature control	Johnson Service
Electrical equipment	All mechanical equipment, including vacuum

KINDERGARTEN WING, KING SCHOOL, AKRON, OHIO.



FIRST FLOOR PLAN, KING SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



BASEMENT FLOOR PLAN, KING SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

sweeper and ash hoist.
Plumbing and sanitary equipment.....
.....Conforming to state code

Cost and Pupil Capacity

Pupil capacity of building	815
Cost of building	$177,351.46
Cost of equipment	$ 8,380.36
Total cost	$185,731.82
Cost per cubic foot	$ .408
Cost per pupil	$ 217.61
Total cost per pupil	$ 227.86

KING GRADE SCHOOL

Date bids received	July 25, 1922
Date contract awarded	Aug. 1, 1922
Date construction started	Aug. 7, 1922
Date construction completed	Nov. 24, 1923
Date building occupied	Nov. 24, 1923
Working days required	381

Site

Dimensions	309 by 392 ft.

Building

Use	Elementary
Number of rooms:	
Classrooms	23
Library reading room	1
Fine-arts room	1
Music room	1
Office	1
Clinic	1
Teachers' room	1
Auditorium	35 ft. by 40 ft. 2 in.
Seating capacity	200
Gymnasium	64 ft. 2 in. by 40 ft. 2 in.

Design and Construction Materials

Exterior design	Modern
Exterior facing	Brick
Exterior trim	Terra cotta
Construction material	Concrete
Corridor and stair finish	Yellow pine
Classroom finish	Yellow pine
Auditorium finish	Yellow pine
Gymnasium finish	Yellow pine
Finish of toilet rooms	Yellow pine

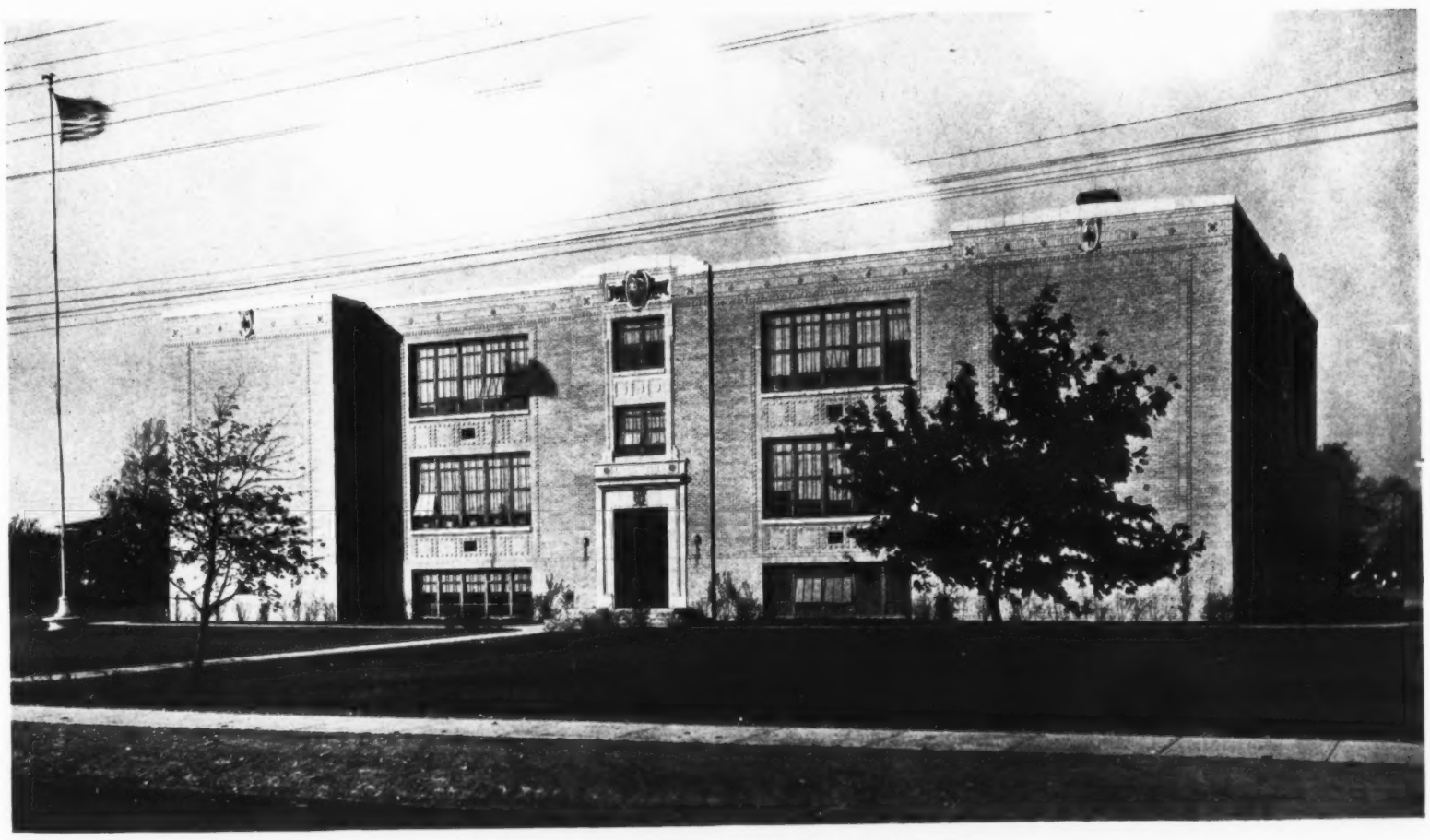
Mechanical Equipment

Type of heating and ventilation.....
.....Steam and unit vents
Temperature control.....Johnson Service
Electrical equipment.....
All mechanical equipment, including vacuum sweeper and ash vaccum tank.
Plumbing and sanitary equipment.....
.....Conforming to state code

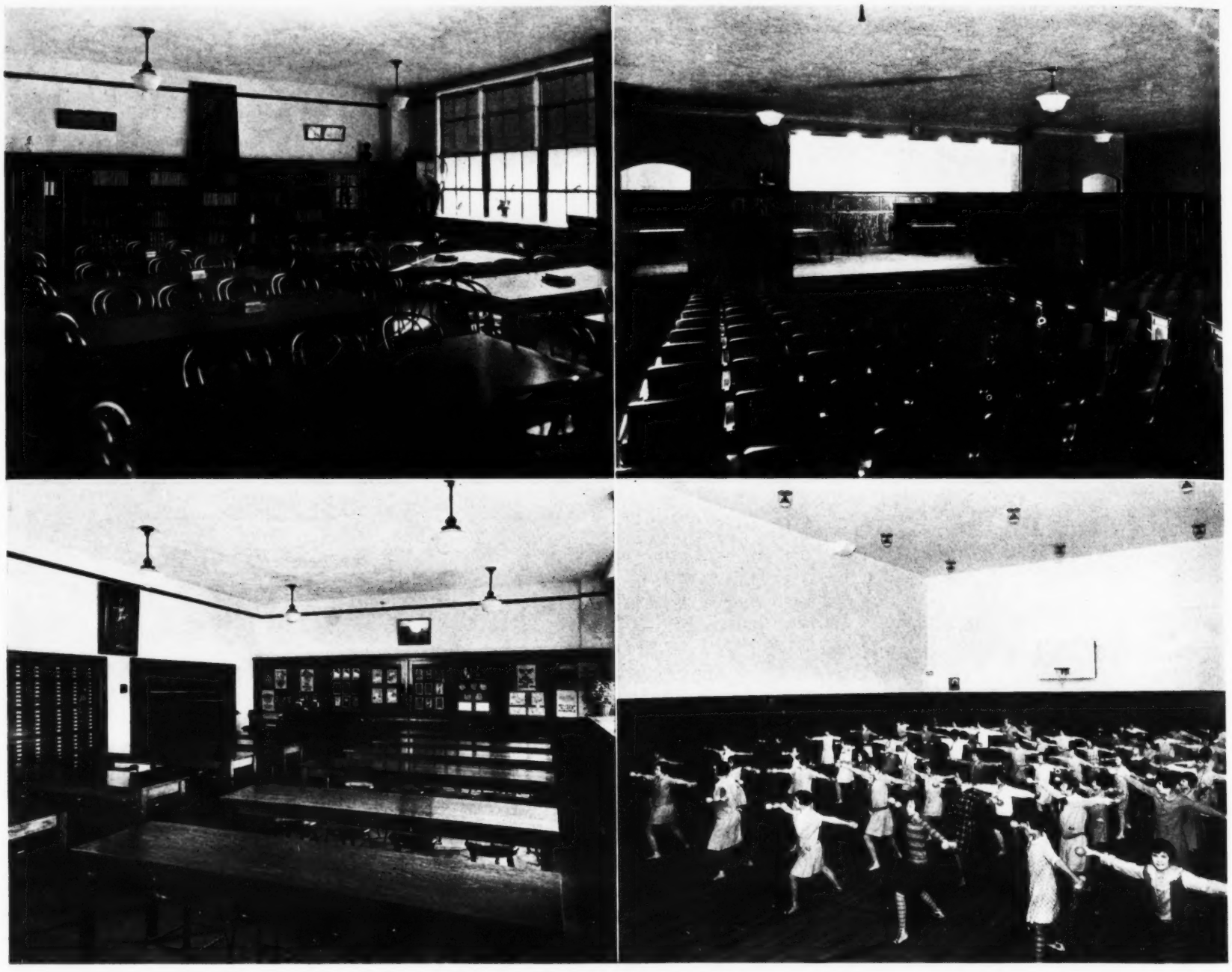
Cost and Pupil Capacity

Pupil capacity of building	1,022
Cost of building	$262,468.51

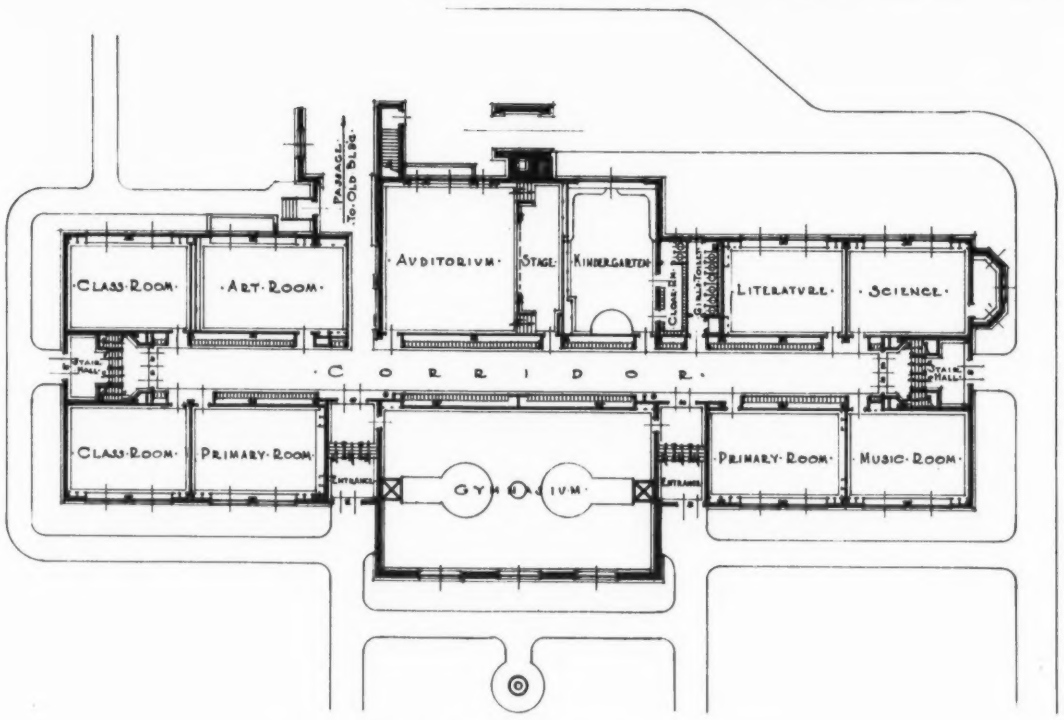
SPICER SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



EXTERIOR VIEW, FOREST HILL SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.



INTERIOR VIEWS, SPICER SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.
Top: Literature and Library Room and Auditorium; Bottom, Art Room and Gymnasium.



FIRST FLOOR PLAN, SPICER SCHOOL, AKRO, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

Cost of equipment	$ 7,106.26
Total cost	$269,574.77
Cost per cubic foot	$ .331
Cost per pupil	$ 256.81
Total cost per pupil	$ 263.77

SPICER GRADE SCHOOL

Date bids received	March 16, 1927
Date contract awarded	April 18, 1927
Date construction started	April 25, 1927
Date construction completed	Aug. 30, 1927
Date building occupied	Sept. 1, 1927
Working days required	106

Site

Dimensions	277 by 434 ft.

Building

Use	Elementary
Number of rooms:	
Classrooms	14
Library reading room	1
Artroom	1
Music room	1
Office	1
Book storage	1
Clinic	1
Teachers' room	1
Auditorium	36 ft. 4 in. by 32 ft. 5½ in.
Seating capacity	160
Gymnasium	66 ft. by 39 ft. 4 in.

Design and Construction Materials

Exterior design	Modern
Exterior facing	Brick
Exterior trim	Terra cotta
Construction material	Steel and concrete
Corridor and stair finish	Yellow pine
Classroom finish	Yellow pine
Auditorium finish	Yellow pine
Gymnasium finish	Yellow pine
Finish of toilet rooms	Yellow pine

Mechanical Equipment

Type of heating and ventilation	Steam and unit vents
Temperature control	Johnson Service
Electrical equipment	All mechanical equipment, including vacuum cleaner and ash vacuum tank.
Plumbing and sanitary equipment	Conforming to state code

Cost and Pupil Capacity

Pupil capacity of building	1,035
Cost of building	$226,256.00
Cost of equipment	$ 11,257.00
Total cost	$237,513.00
Cost per cubic foot	$ .417
Cost per pupil	$ 218.60
Total cost per pupil	$ 229.47

The Purification of Water in Swimming Pools

Frank E. Hartman, Chemist and Engineer, Chicago, Ill.

In Europe, ozone has been used with outstanding success for upwards of half a century, for municipal purification, having been investigated vigorously and accepted by practically every authority of note. In America, ozone found no wide application until after the world war.

At first it may seem difficult to understand why so ideal a purifying agent attracted such little interest here. The explanation is not hard to find. The introduction of ozone in America was rather inauspicious, there being two municipal attempts on a small scale, one at Ann Arbor, Mich., and the other at Philadelphia. Both these enterprises were failures, to say the least.

Had the designers of European systems of ozoning water seen fit to send able engineers to this country, to study the particular needs of localities and to guide American engineers in the proper design of ozonizers, it is decidedly open to question whether chlorine would ever have found a foothold in water purification. Instead, either patents were purchased outright by groups of capitalists, who desired to exploit the idea, and who gave little or no attention to anything beyond publicity; or inexperienced designers were backed by capitalists, eager for a product and intent upon forcing existing apparatus on the market. This condition exisited long enough to alienate the confidence of American chemists and engineers. True, a few skilled ozonizer designers in America were developed, but the premature efforts to exploit apparatus, still in an elementary stage of development, resulted in putting the concerns out of business before their accumulated experience could be of value to them or to prospective users.

Ozone as a subject which lends itself to sensational exploitations, appeals to popular imagination. The actual virtues of the reagent for water purification, are so manifold, so patent, that the task of the "prospectus writer" stands accomplished out of fact—something quite irresistible to avid gentry, as the history of ozone in America amply testifies.

The Composition of Ozone

Ozone is composed purely of oxygen, consisting of three atoms in the molecule instead of two. In essence, it is a concentrated, unstable molecule of oxygen, eager to obtain a state of equillibrium through chemical reaction. As its only chemical reaction is oxidation, it proceeds directly with the task in hand, destroying bacteria and organic matter by combustion (a virtual burning up), which changes the identity of both from highly complex, sinister substances, to such simple and harmless products as nitrates, carbon dioxide, and pure water. It is the ideal and complete water purifying agent, accomplishing at once the destruction of bacteria and organic matter, while incidentally, the process aerates the water to a high degree of sparkling vitality.

No doubt the efficiency of this reagent can stand up in the face of the facts accomplished with it. The annals of its use in Europe bears ample testimony to its powers as a germicide, while the history which it has made in America reveals it as a complete water-purifying agent. Ozone is shown in its best light by a statement of actual performance, the theory of its action, its "rationale," having long since been broadcasted to the public in the embossed "literature" of its exploiters.

Ozone an Efficient Germicide

(Concluded from June)

An example that will reveal ozone to be at once an efficient germicide and eliminator of organic matter, is found in the results that have been accomplished with ozone in the treatment of water from the so-called "Bubbly Creek" of Chicago's central manufacturing district. This creek receives all the sewage from the stock yards, together with other domestic and industrial sewage. It is a black, turgid stream, stinking with putrescent matter; in half-gallon bottles, the color is that of brown oak; it is so laden with hydrogen sulphide as to tarnish, in a few hours, the brass valves and trimmings of the pump house, in which is situated an open softening tank exposing some 100 square feet of surface of the water to the atmosphere. This water is first treated in a continuous lime softener and allowed to settle. As it comes from the softener, the odor of hydrogen sulphide is replaced by the sickening, fetid odor of putrefaction, its color remaining the same as before softening. Without filtration, the water receives treatment in a special ozonizer. The purified effluent is free from all odor; comparable in color with distilled water, when compared in tall form 100 cc. Nessler tubes, the bacterial count, running from 3 to sterile (raw water innumerable, in 1:100 dilution on standard petri dish) with a total absence of liquefaction of gelatin; tubes being held in the incubator up to 100 hours. These results are nothing short of extraordinary, especially in view of the fact that double chlorination (dosing heavily, storing and redosing) failed to eliminate liquefying organisms. Such water is of no interest to sanitarians, as public sanction would never be gained for drawing a potable supply from so contaminated a source, regardless of the results of purification. But as an example of what can be done with a purifying agent, it is without parallel. It is of interest, in passing, to state that ozone is being successfully used, in a number of cases, to eliminate colloidal humus from highly alkaline water from which it had been impossible to coagulate the humus by practical methods, producing a water totally free from color.

All of this is of tremendous interest to those concerned with swimming pools. Here we have a reagent of sufficient germicidal power to destroy such robust, spore-forming organisms as *B. subtilis*, a feat that guarantees effectiveness against pathogenes. At the same time this reagent oxidizes organic matter to a degree that it will change stinking sewage to odorless and colorless water. When it is considered that the cost of ozone treatment will not exceed a cent per thousand gallons, at the current rate charged for electricity, we have an instrument of sanitation of untold value.

The Application of Ozone

Ozone, to be effective, must be properly applied and must be used in sufficient quantities to accomplish the complete purification of the water. Such failures, as can be ascribed to the process, were never due to the reagent. The fault lay with the manner of its preparation or application. In America, we demand apparatus that requires a minimum of attention and is proof against the errors of neglect. Especially is this true of small plants, frequently intrusted to unskilled hands, already burdened with too much detail. With this thought in view, let us outline the requirements of a completly automatic water ozonizer, designed to meet any condition conceivable, in the sanitation of swimming-pool water.

The Preparation of Ozone

First we must consider the means of preparing the ozone. Ozone is made from the oxygen of the atmosphere, by subjecting the latter to the action of electric discharges, in a specially constructed generator. The design of the generator should be such as to completely eliminate the possibility of a sparking discharge, which forms when sharp edges or points are present on the electrodes, a pure plane-to-plane discharge the desideratum. Next, we must consider the air from which the ozone is produced. First, it must be as free from water vapor as is possible to obtain. Water vapor, present in the discharge, is precipitated on the electrodes, giving rise to sparking, which produces oxides of nitrogen, which are in turn absorbed by the water, producing nitric acid, that will shortly ruin or greatly impair the efficiency of the generator. An air-drying plant of the highest order of efficiency, is an absolute requirement for the successful operation of any ozone generator.

Next, we must consider the concentration, or strength of the ozonized air to be employed, together with the quantity of ozone. It was long thought that ozone was selective of organic matter, that is, that it would oxidize organic matter before it attacked bacteria. Just the reverse of this is true. For germicidal effect, as little ozone as one half part per million (by weight of water) may be used, but this is not a safe quantity, as highly polluted water will not be adequately purified by so small a dose. One part per million should be the absolute minimum for swimming-pool water. However, this quantity may be relied upon only to destroy bacteria, being insufficient to appreciably attack organic matter. For the complete purification of water for the class of service that includes swimming pools, we should employ at least two parts per million, while for surface waters, the dosage is best regulated according to the character of the source.

Ozone is ten times more soluble in water than oxygen; however, we must consider that ozone is employed in very weak concentrations; hence, the partial pressure of the ozone is very low, and in consequence high concentrations of ozone in solution cannot be obtained so readily. Further, temperature is a potent factor in the solubility of a gas in water, but, unfortunately, with swimming pools, we are always handling a fairly warm water.

Obtaining Purification with Ozone

In order to obtain purification, we must bring the ozone into contact with the impurities in the water and this is accomplished both by mechanical mixing and solubility. In order to obtain every benefit possible, it is desirable to obtain as high a concentration of ozone in solution in the water as the conditions will permit. Solution is the ideal way of reaching all impurities, and further, it permits the carrying of ozone actually into the pool, thus providing means for destroying some bacteria at the very seat of introduction.

The factors that govern the solubility of ozone in water, in the order of importance, are:

(*a*) Partial pressure of ozone (concentration by volume); (*b*) temperature; (*c*) surface exposure; (*d*) contact period.

Of these we have no control over temperature, this factor being more or less fixed.

We should avail ourselves of as high a partial pressure as possible, by using the highest concentration of ozone compatible with good economy. We can further get a virtual increase in partial pressure by increasing the head against which the ozone is introduced into the water.

(Continued on Page 134)

Principles Governing the Selection of Teaching Materials

John H. Jollief, South Whitley, Ind.

An important duty of the school executive and of the board of education is the selection and purchase of teaching materials, such as maps, globes, atlases, charts, reference books, instructional matter for laboratories, vocational shops, commercial, home-economics, and other departments of both elementary and high schools. It is the purpose of the writer to present briefly a few of the important principles which should obtain in the selection of teaching material, other than textbooks.

Teaching Materials Selected for a Purpose

Teaching materials should be selected for a definite purpose, which is to aid instruction. They are, therefore, a means to an end. This is evident if we accept the principal function of the school to be the mental, moral, and physical development of the child, which is brought about through instruction and self-activity. Whatever will promote habits of study, develop practical efficiency in activities shared by all in daily work and social intercourse, improve general physical conditions, and contribute something worth while to character formation, should find a place as tools of instruction. It is the application of such material to all sides of the child's life, that school administrators will insist upon from teachers in the classroom.

Teaching Materials Adapted to Child Needs

Teaching materials should be adapted to the maturity, the capacity, and the needs of the child. Maturity may be judged (*a*) according to physical development, (*b*) according to mental development, and (*c*) according to age. In the past, age alone has been prominently used in determining maturity, but today, by means of tests and measurements, the physical and mental development of the child rightly are being given just recognition and prominence. Maps and magazine articles, lantern slides, and laboratory specimens — all the innumerable things which enter into the instruction of the child, must be adapted to the child's ability. It is a fundamental law that the child cannot learn unless he is ready to learn. Pupils must be ready for the teacher's ministrations. It is obviously true that teaching material for a first-grade class must differ considerably from materials intended for a class in a senior high school. The acid test of the adaptability of teaching materials, so far as the child's maturity and capacity are concerned, is his ability to use them intelligently. If they function fully and adequately in fitting him to give the proper reaction to his environment, then they are probably meeting his needs in a reasonably satisfactory manner.

Purchase Materials Advertised in Reputable School Journals

In general, those teaching materials which are advertised in reputable school journals will prove to be the most satisfactory. They are the most satisfactory, not because they are advertised in such publications, but they are to be found advertised in leading school journals because they are the most satisfactory. Like the ten commandments, which are true, not because they are in the Bible, but they are in the Bible because they are true. One has only to glance through the pages of such a publication as the SCHOOL BOARD JOURNAL in order to note the reliability of the advertisers. A statement like the following which appears at the head of a well-known directory of advertising is significant: "the names given below are those of the leading and most reliable manufacturers, publishers, and dealers in the United States. None other can receive a place in this directory."

When purchasing such materials, it is well to purchase from school specialists who have a fair idea of the institutional needs of the schools, of the common problems educators face, and who realize the financial limitations usually confronting the schools. While it is true that a professional schoolman—whose principal consideration is the application of a manufactured product to the needs of his school—should know values in order to buy intelligently, yet it is also true that he is less likely to err when purchasing materials which are well advertised in reputable school publications than when considering those not so well known.

Economy and Efficiency in School-Supply Purchasing

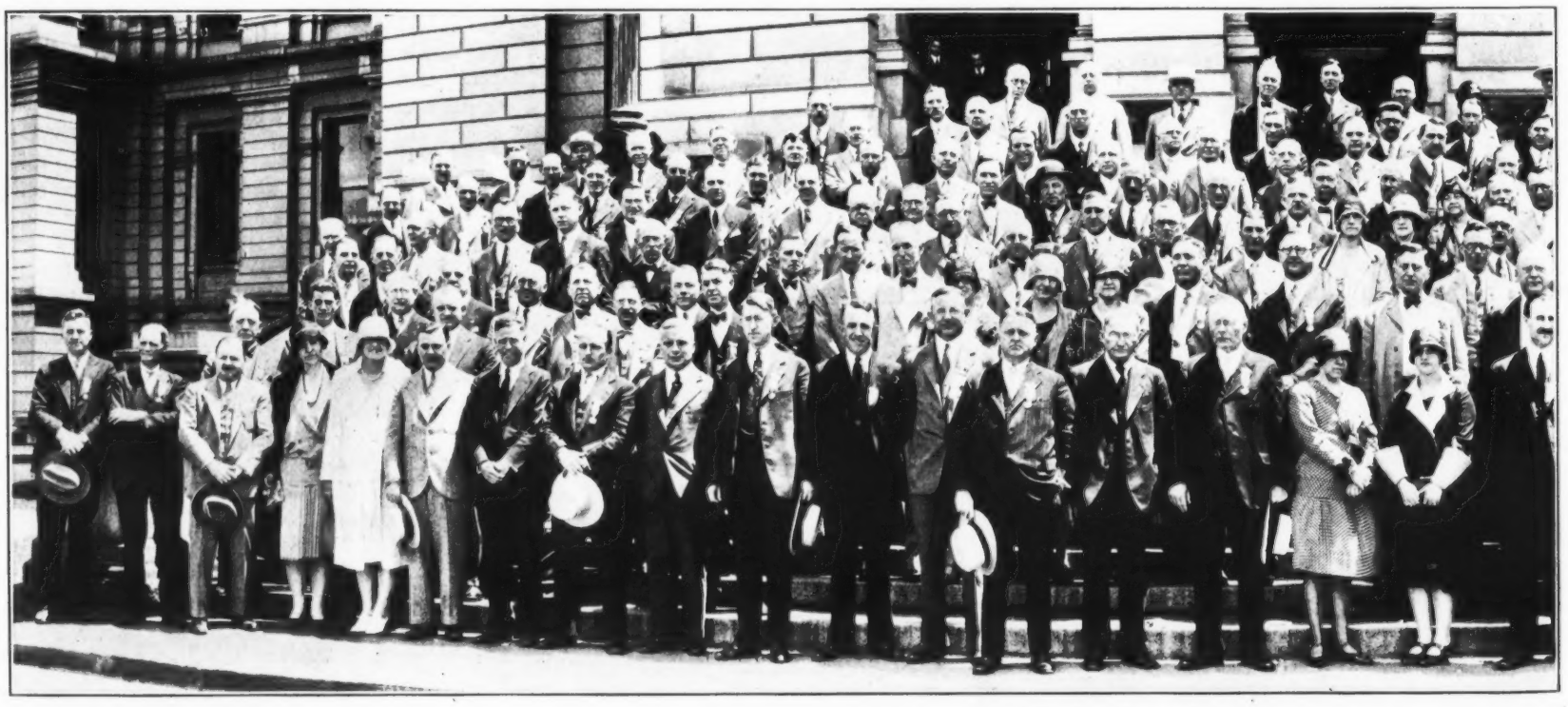
Economy and efficiency, as two major qualities in school administration, should be linked closely together in the purchase and use of teaching materials. The elimination of waste, the money saved by judicious purchasing methods, the saving of students' and teachers' time, and the maximum use of purchased materials at a minimum cost of upkeep, are all vital factors in determining the maximum efficiency of a school system. Teaching materials purchased for a laboratory may serve classes in several subjects, such as biology, general science, physics, agriculture, botany, and physical geography. Maps, globes, and atlases may serve classes equally in history, geography, civics, economics, and sociology. Magazines from the library may serve not only a class in current events in a history course, but also classes in geography, science, commercial arts, and English. In general, it is a better business policy to provide a variety and assortment of teaching materials which can be used by many pupils and in different classes and grades, than to purchase fewer, more expensive articles that can be used only by a single class.

The annual school budget determines the maximum amount available for the purchase of teaching materials, just as it does in the case of other school appropriations. The budget thereby becomes a scientific means of spending school funds in an efficient, economical manner. Just as teaching materials themselves constitute a means to an end; namely, the instruction of the individual child, so does the budget serve as a means to an end in the education of the child.

Adaptability to the Course of Study

All teaching materials should conform to the course of study and its requirements, contributing definitely to its realization. Just as the budget fixes the financial allowance for teaching materials, so should the course of study determine, at least indirectly, the tools of instruction whereby it may become effective. It is poor economy to employ capable teachers, to compel the attendance of boys and girls, and spend public funds for pretentious buildings, if we handicap their efficiency by not supplying the necessary tools of instruction. Holding to the belief that nothing is too good for the children or for the schools is somewhat of an extreme view it seems to me. Rather would we advocate a more sensible, middle-of-the-road course. To meet modern complex conditions, such teaching materials must of necessity be authoritative and uptodate. As the curriculum is revised from time to time, progressive school boards and superintendents will discard obsolete material and add modern equipment.

(Continued on Page 157)



OFFICERS AND MEMBERS OF THE NATIONAL ASSOCIATION

The School Business Officials at Denver

That the professionalizing process is going on rapidly among school business officials and that the men and women in the business administration of city-school systems are increasingly holding to an executive point of view are facts that were made clear from the seventeenth annual convention of the National Association of Public-School Business Officials held at Denver, June 5 to 8. In point of attendance, the meeting equaled the largest in the history of the organization; in enthusiasm and attention to the program, the membership showed its usual commendable zeal, and that in spite of numerous temptations for sightseeing in the mountains. Mr. Mills presided with true Southern grace and courtesy. The program was quite up to the high standard of previous conventions; it was rather free from controversy, and shot through with that practical, hard-headed point of view which is so characteristic of the Association. The school architects, who occupied place on the program for the first time, introduced a valuable new viewpoint on the problems of planning school buildings. Denver furnished, in addition to ideal weather, a type of true Western hospitality that is as delightful as it is hearty and generous. Messrs. Schenck, Ball, and Anderson were ideal hosts. And the Denver schools drew forth audible expressions of surprise at their completeness, beauty, and serviceableness.

The Program

In more than one sense Mr. Mills built his program along new lines and brought new viewpoints of school business to the attention of the membership. The possibility of using research for solving school-business problems rather assumed major importance in the discussions of the week, but school architecture as viewed by architects was a close second in producing papers of interest. Purchasing from the seller's viewpoint was forcibly brought to the attention of the membership. Mr. Mills set the pace for the week, when in the course of his presidential address he called attention to:

> This business of education is the biggest business in this country save that of the Federal Government. It exceeds General Motors which recently surpassed the mammoth steel industry. It is even greater than Standard Oil with its tremendous ramifications and as has been well said: "It's a business with billions of invested capital, with an annual expenditure of millions, with earnings that cannot be computed, and with more than a hundred million stockholders and a great army of workers of which we are a part." If the progress in public education is to continue and keep up with modern business methods, we of the business side must do our part, and, whether we want to or not, we must get into this new department now known to all business, namely, *research*. Your executive committee was exceedingly fortunate this year in securing several outstanding men to discuss this new field in our program. I expect to ask permission to appoint a committee on research and I hope that the committee on constitution and by-laws will make a recommendation for its appointment and continuance. And, it is my earnest hope and trust that this committee, if authorized, will have the wholehearted support of the executive committee and will get under way with a study that will be complete in every detail.
>
> I am convinced of another thing. It may sound revolutionary to some of you at first, but I believe that the public schools must be completely separated from all municipal control and that there should be no committees of the school board. We have tried both these methods in our country for five years, and I am convinced they are the greatest things that have ever happened to us. I didn't think that it was possible to get good men and women to enter an election for places on the school board. We have found that the citizens really take more interest in the schools when the board is answerable directly to the people and when it has complete independence that comes with the separation from all municipal control. We have enjoyed a growth and expansion that could never have taken place otherwise. For where there is a tinge of municipal control it is noticed that the school needs are considered along with the needs for streets, police, and other city department needs. And, of course, under municipal control there will always be a certain amount of politics. I hope that in the very near future every school board will be absolutely independent.
>
> I am also vitally interested in this organization being able to give proper information to the board members throughout the country with reference to the business manager and his duties. I have had, during the past year, several inquiries from board members stating that they were considering the question of employing a business manager, and wanting to know my views about the matter. It is my personal thought that any school district spending as much as $50,000 per year, or having as many as 2,500 children in attendance in the public schools should have a person in charge of business affairs. Personally, I like the title "business manager," but I could work just as well by any other name. I do not think any superintendent can do his best work when he is forced to look after purchasing and numerous other details that pertain to the business side of the work. It not only is not fair to the superintendent, but it is most costly to the school system; and I feel perfectly safe in making these statements, for I was once a superintendent myself.

The Tuesday Sessions

In accordance with his idea that research should hold an important part in the work of the Association, Mr. Mills arranged that the main addresses of the first day should take up aspects of business administration which could be affected by research. The first formal paper of the day, as called for in the program, was on the topic "Research of the Department of the Public-School System" by Dr. George W. Frasier, president of the Colorado State Teachers' College. The last paper of the morning session was a discussion of the responsibility of the school-board secretary. The author was Miss Frances Pierce, clerk of the board of education at Westfield, N. J. The problem was taken up from the standpoint of the secretary in the small town who necessarily is required to do practically every type of work that comes within the range of the school's business.

The afternoon session was opened by Mr. Raymond Courtney. In the course of his remarks Mr. Courtney said:

> The business department of any school system should be organized to meet the particular needs of that particular system. The small system should not be overorganized, neither should the large system be underorganized. It is not uncommon to find either or both of these faults existing in other lines of endeavor so also we will find them in our school management. Overorganization clutters up the machinery, while underorganization leaves the business inadequately managed. Both are wasteful. We cannot afford to be wasteful in the management of this, the greatest enterprise of all time.
>
> The business official should be a man or woman of vision, yet not a visionary. He should have sound business sense, a liberal portion of common sense, and perhaps a little nonsense to relieve the pressure. He should be ever alert for the newest and best, yet not a faddist. He should be able to stand beside the superintendent and with him look far down into the future and see the great worth-whileness of the daily task.
>
> Keeping in mind, then, the great purpose for which our public schools exist, the business department will go about its work systematically, cheerfully, and enthusiastically to the end that this purpose may be realized. It will study carefully the sources of income and check any wide variation therein. It will safeguard expenditures by modern, approved methods, in order that the income may be properly conserved. Purchases will be made carefully, both as to quality and price. Buildings and equipment will be provided when and where needed with the least possible delay. Care and upkeep of buildings and grounds will be such that the work of the schools will be maintained efficiently.
>
> In the small-city systems with which I am connected it has been a comparatively easy task to harmonize the various departments and to coordinate their work so that the entire system is working smoothly and effectively. There is very little lost motion. All departments apparently recognize that the schools are maintained for the benefit of the boys and girls and not for the purpose of gratifying the personal ambition of some individual or group.
>
> The work of both the superintendent and business manager is very clearly understood by each, although no hard and fast rules are laid down. Those working under their direction maintain the most cordial relations. I have yet to discover any ill feeling or petty jealousy existing which so often creeps in and sometimes completely disrupts an organization.

The Round Tables

The round tables on Tuesday evening proved to be one of the most valuable features of the week's program and suggested again that two, if not three, evenings and at least one afternoon of each convention should be given up to group discussions of such phases of business administration as accounting, janitor's ventilation, building construction, repair programs, lunchrooms, etc. At Denver, the group which discussed lunchrooms became so interested that it was in session five hours and only with difficulty could be adjourned after the chairman called attention to the hour (1 a.m.).

Mr. H. D. Payne presided over a group which heard papers on the planning of school buildings by Mr. Frank W. Frewen, Jr., and Mr. George H. Williamson of Denver. Mr. J. J. Ball and a group

OF PUBLIC-SCHOOL BUSINESS OFFICIALS, DENVER, COLO., JUNE 7, 1928.

discussed engineering service. The selection, training, and service of janitors provoked a lively discussion in which Mr. Geo. F. Womrath of Minneapolis, and Dr. G. W. Gerwig of Pittsburgh, led. The purchase and distribution of supplies was the topic taken up by a fourth group. Mr. C. L. Barr handled the problems of the school lunchroom; business problems of the small city were taken up by a sixth group. Mr. William Dick presented a paper on financial records which produced an extended discussion by a seventh group.

The Wednesday Sessions

Mr. Mills introduced a number of valuable program innovations. Thus, the first speaker on Wednesday morning, Mr. Henry P. Abbett, was not a school business official, but a commercial purchasing agent and discussed buying as a special function of business which economic necessity has imposed upon management. Purchasing for schools, he said, is no different in principle from industrial or commercial purchasing. Its ultimate objective is to provide materials which will enable the schools to function most effectively and at the lowest consistent cost.

Mr. David P. Hardy, deputy superintendent in charge of business affairs for the San Francisco school system very ably described the San Francisco school-building program which has been under way since 1920. The city is definitely committed to the pay-as-you-go plan of financing schools and finds in an annual tax of $2,100,000, sufficient funds to care for the average annual growth of 1,700 to 2,500 pupils. With the exception of $12,000,000 voted in 1922 for replacements, the school board has used direct taxation and other funds to the extent of $23,700,000, since 1920 in providing new housing for 39,000 students. The unique problems arising from the constricted, hilly terrain of the city, from the broad development of the local school program, from the desire to vary the appearance and plan of buildings, made the paper of particular interest and suggestiveness.

Dr. Geo. W. Gerwig never fails to illumine with keen insight any subject to which he is assigned. Thus, in discussing the financial aspects of the platoon school, he made rather clear that real costs must be measured in terms of the educational product rather than expenditures alone. In Pittsburgh, the cost comparisons between the conventional plan, the platoon plan, and the faculty plan of organization show practically no variations in cost. The significant differences in cost seem to be due to the size of buildings. The small buildings are uniformly extravagant, while the very large buildings are uniformly extravagant, while the very large buildings are also responsible for costs above the average. The most economical schools under all forms of organization are those which range in enrollment from 1,000 to 1,099 students. These cost $66.28 per student per year as compared with $81.54 for schools between 200-400 enrollment, and $75.68 for schools over 1,400 enrollment.

Some hint of the vast business of the New York City board of education was given by Secy. Joseph Miller, Jr., in his paper on the functions of the secretary of the New York board of education. New York has invested more than a billion dollars in its plant and expends more than one hundred millions yearly. Upwards of a million children are enrolled in the schools, and are served by forty thousand teachers, janitors, and other employees. All this vast business centers in the board and find its final control and record in the secretary's office. Mr. Miller rather modestly refrained from stating any details of the variety and amount of the records which he keeps, but he did indicate the difficult and painstaking character of some of his work when he mentioned the variety and number of contracts he must make for the board and the painstaking accuracy required to insure the absolute accuracy and legality of each document.

The splendid record made by the Los Angeles schools in transporting a daily average of 3,500 children to and from school was described by Mr. W. E. Record, business manager of the Los Angeles schools. Said Mr. Record:

Our high-school district comprises an area of nearly 1,000 square miles, of which our elementary district has an area of over 700 square miles. The greatest distance that a pupil is transported to a school is 27 miles, and the shortest is 2 miles.

We also found that the investment necessary to handle our own transportation would be prohibitive, as we have in operation at the present time 103 busses, operating over 256 routes and owned by 35 different contractors, carrying daily an average of 3,500 pupils. It was therefore decided to have private contractors do this work, and this policy is still in effect. We are very well satisfied with the results, particularly as to costs. It is stated above that the questionary sent out by the University of California brought forth the information that the average cost in other sections of the state was about $10 per month, while our average cost per pupil per month for the year 1926-27, was $4.62. Yet, notwithstanding this low cost, the annual expenditures for transportation increased from $36,000 for the year 1922-23 to an estimated cost of $138,000 for the current year.

We have certain standard requirements as to the type of bus used and all necessary safety appliances, and unless the prospective contractors comply with our requirements, their bids are not considered.

In standardizing the equipment, the contracts are drawn stipulating that the vehicles must meet certain safety specifications, as the safety of the child is of first consideration. Furthermore, the contracts state that the bus must be of certain dimensions. No particular make or type of bus is specified, but it is necessary to be of the bus type, mounted on a recognized bus chassis, and not on a truck chassis. The specifications require that the entrance be in the front end of the bus, and the door be of the "Safety Street Car" type; that an emergency exit be provided on the driver's side of the bus. There must be an emergency exit provided in the rear of the bus, and also a movable window the entire width. Another provision of the contract is that the bus must not have a rear overhang of over 30 per cent, that is, that the rear end of the car to the axel should not be over 30 per cent of the entire length of the body from the rear end to the cowl. All busses must be of hardwood construction, equipped with accepted and properly approved brakes, and as a further protection, all windows must be of shatter-proof glass. Even the seating arrangement is specified; namely, that the seats, which are of leather upholstery, must be facing the driver. Also, there must be an aisle of at least 10 inches in width down the center.

In addition to all this foregoing, the contracts establish the time schedule, which is the second consideration after safety. The busses must operate with the regularity of railroad trains, making regular stops and leaving every designated point at a prescribed time. This has proved satisfactory, for the school registrars report that the student almost invariably arrive on time as the busses are rarely late. Furthermore, the busses must come to a complete stop at all railroad crossings, as an added safety measure.

All children carried in Los Angeles are protected by accident insurance carried by drivers, because under the law the schools cannot be liable for any injuries. During the years the plan has been in operation, not a single accident has occurred.

Afternoon Session

The valuable paper on "School Lunchrooms" prepared by Mr. E. M. Brown of St. Louis, was read in his absence by Mr. C. L. Barr. St. Louis has managed its lunchrooms on a plan first adopted in 1912 and developed along logical business lines so that today many of its principles and methods have been widely copied. All school lunchrooms should be self-sustaining after the first investment has been made by the board of education. A concessionary could readily earn a profit of 25 to 40 per cent on school lunches, but St. Louis resists all attempts to profit at the expense of the health and welfare of its children. In commenting on the paper, President Mills recited the experience of Houston, which has 65 lunchrooms with an annual turnover of $500,000 and an annual surplus of $25,000 over current expense. The Houston policy is to make the cafeterias, as a group, sustain themselves and to carry along the few which for some valid reason do not show a surplus.

That sellers have largely abandoned cynical doctrine of *caveat emptor* and depend upon mutual satisfaction and profit of both buyers and sellers was the burden of a paper by Mr. W. D. M. Simmons, manager of the school department of the Underwood Typewriter Company. In part Mr. Simmons said:

MR. BALL WAS THE BUSIEST MEMBER OF THE OFFICIAL DENVER GROUP OF HOSTS.

Service and cooperation (the activities, be it noted, and not merely the words which any parrot can be taught to repeat) are the very foundation stones of any selling policy that is modern and really constructive. For the viewpoint of constructive selling is broad enough to include this salient and essential truth; that its own welfare for the future, and its future profits, depend inexorably upon the continuing growth and development (the prosperity, in a word) of its market. Unless the market prospers, it cannot go on buying, and to make a sale which does not contribute positively to the welfare of the buyer is to incur a liability. Overloading a retailer with a stock of merchandise so great that it slows down his turnover, or forcing the sale of equipment which cannot be operated at a profit to the purchaser, results self-evidently in cutting down the buying power of the market on which the seller must rely. And conversely, the sale which results in increasing the buyer's efficiency and the buyer's profit, enables the buyer to grow and expand his requirements. Anything that will contribute to the efficiency of the product in the hands of the buyer is properly recognized as within the scope of constructive sales promotion.

We have not reached the millennium of course. In business, we never shall. The time will not come in our day, if it ever comes, when the buyer will be relieved from the responsibility for comparing values, and distinguishing between real values and specious or fictitious values. But as between the viewpoints of constructive buying and genuine constructive selling, there is no hostility and no essential conflict. The focal point of both is a single point; the effective application of the product to produce desirable results. The best equipment that the buyer can have in dealing with his particular problem is a firm grasp of his own immediate and ultimate interests. The firmer his grasp of his own essential interests in the long run, the less will be the difficulty of distinguishing between the substance of constructive selling and the shadow.

The session was closed by Mr. J. S. Mullan who described the refinements and improvements which he has made in the Rochester system of buying and distributing supplies.

Easterners who are still laboring under the misconception that Colorado Springs is the only gateway to the Rockies, learned after the Wednesday afternoon session by actual contact what a wealth of mountain beauty is within an hour's ride of Denver in Denver's own city park system. The Colorado Mountain Club provided the program.

Thursday's Session

Dr. A. L. Threlkeld, superintendent of the Denver schools, opened the Thursday session with a careful paper on the "Business Department of a School System as Viewed by a Superintendent of Schools." In part he said:

A superintendent of schools conceives of a public-schools system as being organized for the same purpose as that of a private business enterprise; namely, dividends. Every organization must show profits in terms of the purpose for which it is organized or it cannot continue. Profits are the source of life in any organization. This is the one thing common to all enterprises, private or public. But in education there may be a notion of what constitutes dividends different from the common concept in private business enterprises. In education we aim for dividends in terms of better people in each generation than those of the preceding generation. There has not been a multiplicity of coordinate purposes in the establishment of a school system just as there has been no such multiplicity of coordinate purposes back of the organization of any successful private business enterprise. There can be only one dominant purpose in any successful action, whether it be the performance of an individual, a company of individuals in a private business enterprise, or the general public in such a functioning as is represented in its establishment and maintenance of public schools. There can be many and varied subordinate purposes, but none that is coordinate with another.

It follows then that the planning of a building program and the planning of the buildings themselves should be determined from the point of view of the educational needs to be served. Buildings do not exist in their own right, nor are supplies and equipment purchased merely for the sake of having them. Custodians are not merely for the purpose of keeping the buildings in good condition except that in the final analysis such care makes better education possible. Everything must be contributory to the one dominating motive of the best possible education.

This point of view—that of one purpose, education—dominating the administration of a school system does not relegate to an unimportant position the department or departments responsible for the business management involved in maintaining a modern school system. It is extremely important that buildings be constructed and maintained at the lowest possible cost consistent with good educational services, and this is true with reference to the buying of all equipment, supplies, and the like. Not one dollar more than is necessary to carry on whatever program of education the people may have determined upon through their board of education should be spent. It is, therefore, incumbent

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Index of School-Bond Prices[1]

Harold F. Clark, Indiana University, Bloomington, Ind.

The most outstanding thing about school-bond sales in May was the sensational rise in net interest rates paid on school bonds. This is just another way of saying that the price of school bonds fell and school boards did not get as much money from a bond sale, as could have been obtained in previous months. The net interest rate paid on all school bonds sold in May was 4.35 per cent. The net interest rate paid on all school bonds sold in April was 4.13 per cent. As is readily seen, the rate in May was .22 of 1 per cent higher than the rate in April. In fact, the rate in May was higher than the rate in any previous month in 1928 and higher than December and November, 1927.

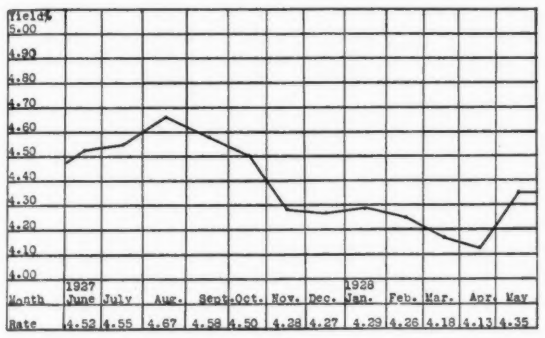

TABLE I. Average Yield of All School Bonds Sold During the Month

Someone might think that .22 of 1 per cent was not much, and for that reason it would make little difference whether school bonds had been sold in April or in May. On the bonds sold in May, .22 of 1 per cent amounts to over $46,000, which is the additional interest that will have to be paid on the bonds each year. If the bonds run on the average thirty years, this additional interest will amount to over $1,300,000.

TABLE II
Amounts and Yields of Bond Issues[2]

		May, 1928
1.	School bonds sold during the month	$ 21,193,500
2.	All municipal securities sold during the year (to date)	505,154,744
3.	All school bonds outstanding (estimated)	3,336,000,000
4.	Average yield of all school bonds outstanding (estimated)	4.64%
5.	Yield of school bonds of the ten larger cities sold during the month	4.01%
6.	Yield of United States long-term bonds (Quotation the middle of May)	3.21%

[2]The monthly total of school bonds does not include all the bonds issued in the month, due to the difficulty of obtaining the yields on some of the issues.

The question might well be asked what caused this great rise in interest rates on school bonds. The answer is not hard to find. The Federal Reserve Banks have raised the rediscount rate, the export of gold has continued, and stock market speculation has taken so much money, that together they have caused a shortage of credit at the old rates and the result has been a rise in interest rates. Call money rates reached 7 per cent in the early part of June, the highest rate since 1921.

To the school board preparing to sell bonds, the important question is how long will the high-interest rates continue, or will interest rates go even higher. As we have said many times before, the general opinion is that over the next few years the direction of interest rates will tend to be downward. For the immediate future, the answer depends upon the Federal Reserve Banks. If they raise the rediscount rate again, interest rates will go up more or less automatically. If there is no change in the Federal Reserve policy, interest rates should work lower by the end of the summer. Our advice for the immediate future would be if money must be obtained, issue short-term loans. Then, when interest rates have moved down to lower levels the short-term loans can be replaced by long-term bonds.

[1]Copyright by Harold F. Clark.

TABLE III
Bond Sales[3]

Year	School	Municipal	All Public and Private
1927	$274,000,000[4]	$1,450,000,000[4]	$7,735,000,000[4]
1926	260,000,000	1,365,000,000	6,311,000,000
1925	323,000,000	1,399,000,000	6,223,000,000
1924	288,000,000	1,398,000,000	5,593,000,000
1923	208,000,000	1,063,000,000	4,303,000,000
1922	237,000,000	1,101,000,000	4,313,000,000
1921	215,000,000	1,208,000,000	3,576,000,000
1920	130,000,000	683,000,000	3,634,000,000
1919	103,000,000	691,000,000	3,588,000,000
1918	41,000,000	296,000,000	14,368,000,000
1917	60,000,000	451,000,000	9,984,000,000
1916	70,000,000	457,000,000	5,032,000,000
1915	81,000,000	498,000,000	5,275,000,000
1914	42,000,000	320,000,000	2,400,000,000

Average Rate at Which Bonds Were Sold

Year	Municipal
1927	4.47[4]
1926	4.61
1925	4.58
1924	4.26
1923	4.76
1922	4.81
1921	5.18
1920	5.12
1919	5.04
1918	4.90
1917	4.58
1916	4.18
1915	4.58
1914	4.38

[3]By special permission based upon sales reported by the Commercial and Financial Chronicle.
[4]Not final.

The lowest interest rate paid on any school-bond issue in May was about 3.50 per cent. The highest rate paid was 5.47 per cent. The difference of about 2 per cent in interest is very large. Part of this difference is without doubt caused by poor selling arrangements in the case of the districts paying the high interest rates.

Even though interest rates in May were the highest of the year, the amount of bonds sold was the largest of any months of the year—$21,193,500. This compares with the April sales of $19,407,528, which was the largest previous month.

The state indexes present the usual variation this month. School districts in Maine and Pennsylvania sold all their school bonds at an average interest rate of less than 4 per cent. Alabama, Georgia, and Montana sold their bonds at average interest rates of over 5 per cent. It is well known that credit conditions differ in various parts of the country, but it might well repay some of the sections paying high interest rates to try to tap the great reservoirs of credit in the east.

TABLE IV
Average Yield of Long-Term Federal-Government Bonds[5]

Past Twelve Months Month 1928	Rate %
June	3.33[6]
May	3.31[6]
April	3.32
March	3.30
February	3.36
January	3.35
1927	
December	3.34
November	3.39
October	3.43
September	3.44
August	3.45
July	3.48

Past Five Years Year	Rate %
1927	3.464
1926	3.544
1925	3.797
1924	4.010
1923	4.298
1922	4.301

[5]Taken from the Federal Reserve Bulletin.
[6]Calculated from the New York Stock Exchange quotations and not the final Federal Reserve Board average.

TABLE V
Security Prices[7]

Date 1928	Average Price of 228 Stocks	Average Price of 60 Bonds
June	220.5[8]	100.1[8]
May	221.8[8]	100.6[8]
April	215.2	100.7[8]
March	203.0	100.5
February	191.9	100.3
January	105.6	100.3
1927		
December	196.5	100.0
November	190.0	99.7
October	186.2	99.6
September	191.1	98.00
August	179.3	97.76
July	171.7	97.03

[7]As reported by the Standard Statistics Company, Inc. Used by special permission.
[8]Not final.

The index number of wholesale prices and the cost of building materials have risen slightly. Security prices as represented by stock prices have risen sharply, reaching the high point of all time in May. But the prices of bonds in general have dropped slightly due to the same causes that led to the fall in prices of school bonds.

TABLE VI
Revised Index Number of Wholesale Prices[9]

Past Twelve Months Month 1928	All Commodities	Building Materials
June	97.9[10]	92.7[10]
May	97.6[10]	91.6[10]
April	97.4	92.5
Mar.	96.0	91.0
Feb.	96.4	91.0
Jan.	96.3	90.8
1927		
Dec.	96.8	90.4
Nov.	96.7	90.2
Oct.	97.0	91.6
Sept.	96.5	92.1
Aug.	95.2	92.9
July	94.1	93.7

Past Five Years Year	All Commodities	Building Materials
1927	95.4	93.3
1926	100.0	100.0
1925	103.5	101.7
1924	98.1	102.3
1923	100.6	108.7

[9]United States Bureau of Labor Statistics, 1926=100.
[10]Not final.

There is one other very important thing to which we want to call attention, that is, the advantage of being able to sell bonds at slightly less than par. It is much better for a city to sell a 4-per-cent bond at slightly less than par, than to sell a 4.5-per-cent bond at slightly over par. The important thing is the net interest rate. The Model Bond Law, drawn up by the National Municipal League, expresses this very well in the following recommendation:

"Municipalities are permitted to sell their bonds at less than par, but not less than 95 per cent of par. There is often a material market advantage in being able to sell a bond at less than par. The important thing is not whether the city receives par or better for its bonds. The fundamental consideration is the rate which the city pays for its loan. The requirement that bonds must be sold at not less than par serves no useful purpose and may prevent the city from securing the best market rate."

WHAT IS AN INDEX NUMBER?

The price of butter was 29c per pound in 1913 and 48c per pound in 1918. The price of rubber was 80c in 1913 and 54c in 1918. Were prices higher in 1918 than in 1913? How much higher? If we based our judgment upon the price of butter we would say prices were very much higher in 1918 than in 1913. On the other hand, if we based our opinion on the price of rubber, we would say prices were lower in 1918 than in 1913. When the result depends upon the commodity, we assume it is clear that taking the price of one commodity is not a very satisfactory way to answer our problem as to whether prices were higher in 1918 than in 1913. We might take more commodities. Cotton, for instance, sold at 12c per pound in 1913 and 31c per pound in 1918. The price of each of these commodities is changing at a different rate. The same would be true even if we took a great many more commodities.

For this reason we cannot take the price of any one commodity as a measure of the changes in price. We must find some way of averaging all the prices. When we average these prices properly, we are making Index Numbers. An Index Number of Prices, then, is simply a proper average of prices. Mathematicians, statisticians, and economists tried for many years to find this proper method. We know what the proper method is now. The result is, as Irving Fisher says, that we can measure price changes more accurately than our grocery man can weigh the potatoes we buy from him.

It is so important for the business man to know whether prices are going up or down that even the daily newspapers are now publishing these Index Numbers of Prices. In most of the newspapers of America on Monday morning you will find the Index Number of Wholesale Prices for the previous week.

Our Index Number of School-Bond Prices is an attempt to let schoolmen know if school-bond prices are higher or lower than they were.

THE AMERICAN
School Board Journal

WM. GEO. BRUCE
WM. C. BRUCE } EDITORS

EDITORIAL

HIGHER STANDARDS AND THE TENURE PROBLEM

In any review of the tendencies that have been manifest in American school life, it must be noted first of all that in recent years there has been a decisive strengthening of the teacher-salary schedules. Whether the professional workers, on the whole, believe that absolute equity in salary fixing has been reached is not so readily answered.

That those desirous of entering the profession of teaching believe the compensation to be liberal is attested in the remarkable surplus of teacher talent seeking employment. We do not overstate the situation when we contend that over one hundred thousand trained teachers in the United States are unable to secure positions. Thus, one reason for the teacher surplus may be attributed to an attractive salary schedule.

Another tendency which has manifested itself simultaneously with the salary increase, is that of a permanent teacher tenure. Educators have held that an indefinite tenure will make teaching more stable and therefore a more inviting profession, and will insure better instruction for the children. This argument has thus far not been refuted with any degree of success. Thus, the movement in the direction of a permanent or indefinite tenure will continue.

At this point it may be the part of wisdom to engage in a few reflections as to the ultimate effect the salary tendency may have upon the tenure movement. It must be deemed proper that the professional worker should strive for an equitable compensation. It is equally proper to seek a reasonable assurance of tenure of service. But will not any overreaching of the one impair the chances of the other?

The phenomenal teacher surplus suggests two alternatives: one, that of lower salaries; the other, higher standards. If the first is deemed inexpedient, the second deserves all the more attention. The conclusion must be that the time for placing the teaching service upon a higher basis of efficiency was never more opportune than now. In recruiting the ranks of the teaching forces, the school administrator may draw upon a larger list of applicants. The exceptional teacher talent is more likely to be found in a large than in a small list. The training schools, too, are afforded an opportunity to make for higher standards in the teacher service by holding more rigidly to scholarship and teaching ability.

But when all is said and done, there still remains the problem of the incompetent teacher now in the service. The administrator knows that here lies the immediate crux of the whole question. Who has the temerity to remove her? Or rather, who cares to enter upon the struggle and annoyance which necessarily attends the removal of a superannuated teacher? She may have outlived her usefulness, but she is highly respected and may deserve some consideration for long and faithful service. She has friends and admirers who are more concerned in her personal welfare than they are in the children who have become the victims of her declining capacity. Finally, will a permanent tenure law ease this phase of the situation? Can the elimination of incompetents best be accomplished with or without tenure restrictions.

These are questions which deserve serious consideration in the contemplation of any plan designed to attain higher standards in the teaching profession. In the absence of tenure restrictions the incompetent may be eliminated without staging a public hearing. Under a tenure law, ugly court proceedings may have to be engaged in if a needed removal is to be accomplished.

The situation may be summarized as follows: A remarkable teacher surplus is before us. If lower salaries cannot be entertained, and they ought not, then higher standards must be insisted upon. Higher standards mean not only a more thorough professional preparation for the teaching service, but also the elimination of the incompetents now in the service.

We are not inclined to oppose a permanent tenure system. It possesses great merit. We are disposed, however, to hold that the champions of the tenure plan must explain more fully in the future than they have in the past, the direct effect a tenure law will have upon the general effort towards higher professional standards in the schools.

SHALL HIGH SCHOOLS AFFECT THE ORNATE IN ARCHITECTURE?

Occasionally the complaint is heard in this or that community to the effect that the local high school, which excels in architectural splendor, has cost too much money. Here it is the privilege of the citizen who pays for new school buildings, and for the maintenance of the school system, to voice either criticism or praise. His money has gone into the project and he has the privilege to vent his opinions on the same.

It is, however, somewhat far-fetched for one community to criticize another in the expenditure for school structures. A citizen of Pennsylvania, chairman of the state tax commission, recently uttered the following criticism: "Nothing has done more harm than the advertising of the $5,000,000 high school in Hibbing, Minn. When a school board exhausts its entire borrowing power to put up an unnecessarily expensive high school it is a great detriment to school interests."

If the citizens of Hibbing desire a splendid school structure and are willing to pay for it, what concern can this be to the citizens of Pennsylvania? Hibbing lies in a rich mining district and the taxpayers are willing to pay the price. Right here it should be remembered that the situation at Hibbing is exceptional. Ninety-five per cent of the taxes are paid by the mining companies who can afford to pay them. Perhaps Hibbing has been extravagant, but that is Hibbing's affair. Nor does it follow that Hibbing's example must or can be followed by other communities. Neither does it follow that Hibbing's example can do harm to any other community.

The Hibbing example simply means that the pride and cultural aspirations of the community may find expression in a stately high school structure. No other building could express more appropriately and more eloquently the local patriotism of the people. And what harm can such a structure be to the cause of popular education elsewhere?

The nations of Europe voiced their constructive genius and architectural dreams in all sorts of edifices from a Greek temple to a Roman coliseum, from a Tower of London to a Bastille of Paris, from picturesque monuments to stately tombs, from festive stadiums to gloomy museums. If the American people choose to select the modern schoolhouse as the medium through which they give expression of their architectural taste and their cultural aspirations, let us say Amen. The larger the school the smaller the jail, the finer the schoolhouse the higher the standards of the public mind as to form, color and design in the rearing of housing.

An architectural creation, splendid in outline, ornate in appointment, and impressive in form, is bound to radiate a beneficent influence upon the hearts and minds of the populace. In all ages dignified and imposing architecture have impressed mankind and mankind has been better for being shown the beautiful against the ugly, the utilitarian against the awkward, the practical against the impracticable. The human eye is thus trained to discriminate between the attractive and elevating as against the unsightly and debasing.

In the larger communities the pride and patriotism of the people may find expression in a stately government building, a spacious railway station, a tall skyscraper or a sumptuous clubhouse, but in a smaller community such structures are not, in the nature of things, either feasible or possible. What then can hinder the smaller community to rear a high-school building that shall embody the stately, the monumental and the ornate, and thus give voice to its own standards of architectural tastes, or its town pride, ambition or aspiration?

It may be said that one of the finest characteristics of American life is that which provides its educational institutions with more than a bare housing, but which seeks to endow them also with grace, splendor and beauty. Such tendencies can only give greater momentum and prestige to the cause of popular education which forms so vital a part of the stability and prestige of a great self-governing nation.

OVER DIVERSITY OF SCHOOL SUPPLIES AND EQUIPMENT

The inventive genius, stimulated by commercial competition, has done much to render the paraphernalia of our daily lives more practical and more utilitarian. The competitive spirit, while highly beneficial to the well-being of mankind has, however, also led to many oddities and extravagances. Articles designed to serve one and the same purpose are made in many sizes and forms and in many degrees of quality and durability. The inventive mind has aimed at diversity and utility, while commercial competition has striven for attractiveness and talking points in salesmanship.

But experience has taught that where the element of diversity is carried to the extreme it becomes a waste. The United States Bureau of Standards illustrates this point well when it says: "For example, most amateur carpenters sooner or later invest in a grinding wheel to keep their tools in good condition. Suppose that in 1925 some local hardware dealer had decided to carry a full line and therefore stocked his store with one of each size, grade, and type of wheel. How many would the prospective purchaser find from which to make his selection? One hundred would probably be enough to satisfy the most exacting. Five hundred surely would. Yet, our local hardware dealer in 1925 would have shown us more than 715,000 different grinding wheels! Similarly, before simplification, he would have had to carry 1,350 styles of commercial files and rasps, nearly 7,000 items of builders' hardware, over 5,000 varieties of shovels and spades, etc. Of course, no one retailer ever stocked such a variety. He merely tried to select those styles and sizes which he felt would best satisfy the local tastes."

There are many utilitarian articles which find their way into a school plant. That many of these are made with superfluous diversity, as to size, form, or model is reasonably assumed. Thus, a fraction of the school dollar goes to waste in articles that are amplified into a great variety of shapes and sizes. The remedy for this waste no doubt lies with the producer rather than the consumer. To what extent the simplication of school supplies and equipment should be encouraged we are not prepared to say, but if the ratio of unnecessary variety has entered here as it has in every other line, a study of simplified practice deserves to be welcomed. It is for the manufacturers and distributors of school supplies to provide the answer.

ONCE MORE THE CHINESE WALL IN SCHOOL ADMINISTRATION

The tendency on the part of boards of education to apply the "trade at home" slogan to the selection of teachers has frequently been referred to in these columns. Whenever a school system has fallen into the error of building a Chinese wall around the town; namely, to exclude teachers who do not live in the immediate taxing unit, it has sooner or later been obliged to reverse itself.

Within the past six months we have seen a Pacific Coast state adopt an exclusion rule, and several mid-west cities attempt the introduction of such a rule. When the school administrators of the Pacific Coast state realized the narrow spirit involved in such a course, and that the same merely invited retaliation on the part of other states, they concluded not to enforce the rule. When the business interests of the mid-west cities realized that a boycott on nonresident teachers might invite a boycott on the part of neighboring towns against the industrial products of the said cities the school officials awakened to the equities of the situation.

The school committee of Lynn, Massachusetts, recently raised a hubbub when it adopted a rule whereby all teachers now employed in the schools of that city must become residents therein. Judge Henry T. Lummus, chairman of the school committee 25 years ago, voices his protest against the action in the following language:

"Perhaps my ideas of school administration are old fashioned, but my amazement at the treatment recently inflicted upon teachers, culminating in the requirement that they must become domiciled within the city limits, has brought me out of my retirement.

"No one suggests any practical benefit to the school system from this new regulation. It is folly to suppose that a teacher living just outside the city line in Swampscott or Saugus cannot give as good service as one living just inside the lines. Other municipalities make no objections that many of their teachers live in Lynn. The new requirement seems to be a "Trade in Lynn" idea with a club as a persuader.

"The public pays its school teachers for faithful and efficient teachings, nothing more. It does not buy their private lives. Unless the private lives of teachers directly and seriously affect their efficiency, their private lives are none of your business, or mine, or the school committees."

This states the case quite completely. What applies to Lynn, Massachusetts, applies to every other American city. Teachers must be employed on the merit basis only. Character and fitness must determine, not location or place of residence.

PROPERTY ASSESSMENT AND SCHOOL SUPPORT

"I suppose every school district has its assessment problem. I suppose everywhere there are inequalities in assessments and low assessments. This always means a high rate of millage. A high rate of millage always means discontent and contention. The sufferer is the child."

So said Superintendent Charles S. Kniss of Juniata, Pa., in discussing the subject of an equitable system of taxation in the light of school support. He continued: "Juniata has had this problem for fifteen or more years. During these years assessments were as low as 16 per cent of the actual value of property. No assessment went higher than one third of the actual value. For years the millage remained low. This eventuated in the necessity of floating redemption bonds to meet bonds that should have been liquidated through the sinking fund, and in the necessity of floating short-term loans to meet current needs.

"During all this time the town was increasing rapidly in population. However, no new school buildings could be constructed because the outstanding indebtedness equaled the borrowing capacity of the town at the low and unequal assessment. Congestion was the inevitable result. The natural consequence was half time for the pupils. The number on half time increased every year.

"In 1925 we came on the scene. The problem was tackled boldly. The millage was put to such a point where it would enable us to meet the current expenses, liquidate the floating debt, and pay off the bonds as they become due.

"We next centered our attention on the triennial assessment which is made this year. The six assessors did not equalize the assessment nor did they raise it high enough to give the town the borrowing capacity with which to build a new high school.

"Here is the thing in this situation that may be new or different or worth while from your standpoint as news. Our board through its solicitor filed a blanket appeal. If this appeal will not secure for the town an equitable assessment on a 37½-per-cent basis, the board proposes to issue an injunction against the assessment which will throw the question into court. This may tie matters up for an indefinite time and may seriously cripple the schools during the interim, but the problem must be solved so that proper school facilities may be furnished and the boys and girls may be in school instead of on the street."

SHALL SCHOOL SYSTEMS EMPLOY A PURCHASING AGENT?

The question of employing a purchasing agent for the school system was recently brought into serious discussion at Brockton, Mass. The contention against the suggestion was that the system of check and recheck inaugurated in that city between the purchasing power and those who must approve and authorize the payment of bills, was sufficiently complete to insure honest dealings.

After all, the employment of a purchasing agent for a school system rests primarily upon the yearly expenditures engaged in and the relative saving that can be made by such an officer. Again, the question depends upon the plan of organization which is in hand. Frequently the secretary of the school board is a man of affairs, who can attend to the purchases as well as he can manage a system of account keeping. Sometimes, the superintendent of schools is an executive who can perform the purely educational labors and yet look after matters of business as well.

Where the school system is sufficiently large, and where the plan of organization assigns the superintendent to educational service only and the secretary to the clerical, it happens that there is a place for business manager or purchasing agent. And when the creation of such a position is under consideration, there can be but one question: Can the purchasing agent or business manager save enough money for the school system to earn his own salary, and something besides? Can the man who applies himself wholly to the subject of supplies and equipment, and the general physical needs of a school system, negotiate more advantageously than he who performs various other duties?

The answers here are obvious. The school administrators have recognized the economies which follow the employment of an expert in matters of business. But they also know that the volume of business involved must be sufficiently large to warrant the innovation. It is not a question of honesty. All transactions engaged in by a school system are supposed to be honestly conducted. It is, moreover, a question of economy. Will it pay? Can a purchasing agent save money for the school system?

Thus the business manager, or purchasing agent, or whatever title we may accord him, has come upon the scene. And wherever he has come and demonstrated his value he has come to stay. He has brought technical experience to his job and has from the standpoint of efficiency and economy justified his office.

SCHOOL-BUILDING FINANCING AND THE PAY-AS-YOU-GO PLAN

With the general growth of population and the expansion of the modern-school system, the question of financing the same has become a serious problem. Eminent educators have turned their attention to the subject and have discussed with considerable ability the methods best adapted to school-building programs and the manner of financing them. Here the serial-bond issues have come into consideration, and have been justified on the theory that every generation ought to be taxed for what it receives in the way of public service. Thus, deferred debts have been contracted on the assumption that a schoolhouse constructed today will be used by coming generations who ought to share in the payment for same.

Whatever may be said on the equities involved in a deferred-payment plan, the economies involved in a pay-as-you-go plan as applied to the construction of new school buildings, cannot be ignored. The economist is bound to remind you that a deferred debt is a double obligation and that the interest charges may in time exceed the amount of the principal.

Instances, where school authorities rely upon the current-tax ability of the community rather than engage in bond issues in financing new building projects, come to light with increasing frequency. The city of Lansing, Mich., during the past year refused to issue bonds for a new school building and went upon an immediate-payment plan. This can, of course, best be done where the property valuations will bear the additional burden without becoming oppressive.

In instances where the debt limit has already been reached it has become necessary to resort to the cash-payment plan. But even where the necessity does not exist the tendency is in the direction of this plan and a lessening of the bonded indebtedness of the tax unit.

SCHOOL BOARDS AND THE LOWEST RESPONSIBLE BIDDER

The school law in most states requires that school boards shall erect buildings and purchase equipment and supplies from the lowest responsible bidder. In this connection it is interesting to recall a recent decision of the Supreme Court of the state of Pennsylvania in which the term "lowest responsible bidder" is clearly defined. The court held: "The term 'lowest responsible bidder' does not mean that the lowest bidder in dollars; nor does not mean the board may capriciously select a higher bidder regardless of responsibility or cost. What the law requires is the exercise of a sound discretion by the directors.

"They should call to their assistance the means of information at hand to form an intelligent judgment. They should investigate the bidders to learn their financial standing, reputation, experience, resources, facilities, judgment, and efficiency as builders."—Hibbs vs. Arnsberh, 119 Atlantic 727.

The Functions of the School Superintendent in Theory and Practise

A Study of the Duties of Superintendents of Smaller Towns and Villages

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VI. SUGGESTIONS FOR THE IMPROVEMENT OF PRACTICE AND GENERAL CONCLUSIONS

The foregoing discussion has shown how the distribution of the superintendent's time over his several functions differs from what leading educational experts on school administration conceive to be the standard in regard to the emphasis of his various duties. The tabulation in Table XI, shows in a comparative way, the relative rank of importance of each function in theory and practice. The fact that supervision and administration are the superintendent's prime functions is further supported by the following expressions:

"Nothwithstanding the fact that there are a hundred and one things that require the attention of a village school principal, he should give most of the attention to the supervision of instruction. Much of the poor teaching one finds in the village schools throughout the country is due largely to a lack of supervision or to the wrong kind."[1]

Another important viewpoint is expressed by Coffman when he writes: "Because the technic of teaching is being rapidly transformed both as to theory and practice, and because of the shifting of personnel of the teaching group, the supervisor finds it necessary to reteach annually the technic of teaching."[2]

On the importance of administration, Deffenbaugh and Muerman write: "In villages having school boards of their own, the school principal should stand in pratically the same relation to the school board as does the superintendent of a city system. He should nominate teachers; select textbooks . . . prepare courses of study . . . be free to assign teachers to the grades for which they are best suited . . . also prepare the annual budget for the consideration of the school board. These are some of the administrative duties of a village principal, and unless the school board requires them of him it is wasting public funds by employing a principal."[3]

TABLE XI. The Relative Rank of Importance of the Superintendent's Functions in Theory and Practice

Rank of Importance	*In Theory*	*In Practice*
First	Supervision	Teaching
Second	Administration	Administration
Third	Teaching	Clerical
Fourth	Professional Study	Supervision
Fifth	Community Leadership	Professional Study
Sixth	Clerical	Community Leadership

Yet, we discover in practice, that teaching is of first importance, while supervision receives fourth rank, being superseded even by clerical duties. The relation of the village school superintendent to the school board does not differ materially from the relation that a board of bank directors bears to the cashier or president of the bank, or that a board of directors of any business enterprise sustains to the manager or superintendent it employs. These directors know but little about the technical details of the enterprise they are to administer. They may not even know the nearest details of a clerk's work, much less attempt its supervision; so they employ a manager for this purpose and hold him responsible for results. How incredible it seems that our schools should be organized in much the same fashion, but with what different results in practice! We find on the whole that our superintendents are experienced, well trained, well

qualified men, and receive fairly adequate salaries; yet the school boards are willing that these men spend nearly one half their time on clerical duties and teaching, when they should be giving their energies to the more important functions of supervision and administration.

Much has been said of the unnecessary waste of the superintendent's time by engaging to such a large extent in clerical and teaching activities, but the improvement of this practice depends on the presentation of more concrete evidence, particularly in the matter of cost. Table XII will serve to illustrate the cost of teaching and clerical duties as compared to supervision and administration for each of the three groups of schools. It will be noticed that the superintendents of Group I spend 60 per cent of their time on the two first named functions, but only 26 per cent on supervision and administration. On the basis of the median salary per week, the school boards are paying at the rate of $21.84 per week for half-time teaching and $3.36 for clerical services, approximately three hours per week which is more than $1 per hour. The median salary for high-school teachers per week was approximately $31.[4] For $10 more per week the boards can secure the services of full-time teachers and it is certain that clerical work can be done for much less than $1 per hour. The superintendent is employed as head of the school system and is supposedly paid for a peculiar type of expert service, but in reality he receives half his salary for teaching and clerical services that should be delegated to others at a very much less cost.

While the other two groups devote less time to these functions, the cost is relatively greater because of the greater salary paid the superintendent as the size of the schools increase.

"But, even in cities of this size, it is plainly a waste of a superintendent's time and a loss of money to the city for the superintendent to teach regular classes. In a town of 3,500 population the board employs a superintendent for $1,500 a year, and requires him to teach six periods a day in the high school. None of the high-school teachers receive more than $600 a year. It might be asked why the school board should pay $900 extra for this one teacher—for he can be classed as nothing more. He cannot be called a supervisor, as he seldom has an opportunity of entering a teacher's classroom, yet every one of his teachers needs help. The educational loss in that town cannot be measured."[5]

If superintendents are to become the educational leaders of their communities, they must be free to give practically their entire time to the purely professional aspects of schoolwork. This can be accomplished only by an incessant campaign on the part of superintendents and educators to educate the people, and school boards to see that it is not only an actual waste of money for the superintendent to spend even a part of his time on teaching and clerical activities, but it is a decided educational loss to the schools.

The results of our study also show an insufficient amount of time given to community leadership, in view of the demand made upon the schools and the consequent need of larger public interest and support. This weakness may be largely due to the fact that this function of the superintendent is relatively a new one. Many prominent educators early recognized the need of cooperation and support between school and community, but only recently has the questioning attitude on the part of the public made it apparent that the school must display its worth. Advertising began with the advent of human existence in the world, yet it is strange why schoolmen have been so slow to understand the value of good publicity in advertising the serious side of the school. Training centers for superintendents and teachers must emphasize this aspect of educational responsibility. The need for emphasis on this phase of school administration is recognized by laymen as well as educators. A prominent journalist recently wrote that, "There is a crying, an urgent, an immediate need for a publicity man in every school . . . No industrial, business, or agency publicist has at hand the wealth of material, the limitless field that awaits the educational advertiser."[6]

Conclusion

Our survey of educational literature indicates that the functions of the superintendent may be classified under six heads; namely, administration, professional study and growth, teaching, clerical work, supervision, and community leadership.

The order of importance of these functions, according to the judgment of 58 university professors, is as follows: Supervision, administration, teaching, professional study, community leadership, and clerical duties.

Four of these, especially, involve a high type of training and ability; namely, supervision, administration, professional study, and community leadership. That the superintendent should not be an expert teacher, or that teach-

(Concluded on Page 74)

[1]Deffenbaugh and Muerman, Administration and Supervision of Village Schools, Bureau of Education Bulletin, 1919, No. 96, p. 25.

[2]Coffman, Social Composition of the Teaching Population, Teachers College Contribution to Educ., 1911, No. 41, p. 86.

[3]Deffenbaugh and Meurman, Op. cit. p. 25.

[4]High-School Director State of Washington, 1921-22.

[5]Deffenbaugh, School Administration in the Smaller Cities, Bureau of Education Bulletin, 1915, No. 44, p. 65.

[6]Bolser, C. M. School and Society, Nov. 27, 1920, p. 517.

TABLE XII—Comparison of the Cost of the Functions of Administration and Supervision with Teaching and Clerical Duties

	Group I Med. Salary per week $42		*Group II* Med. Salary per week $46		*Group III* Med. Salary per week $61	
	Per cent time	Cost per week	Per cent time	Cost per week	Per cent time	Cost per week
Teaching	52.0	$21.84	30.83	$14.18	16.25	$ 8.01
Clerical	8.0	3.36	14.06	6.46	21.50	15.02
Total	60.0	$25.20	44.89	$20.64	37.75	$23.03
Administration	17.50	$ 7.53	21.25	$ 9.77	27.50	$16.78
Supervision	8.75	3.60	15.50	7.13	17.50	10.68
Total	26.25	$11.13	36.75	$16.90	45.00	$27.46

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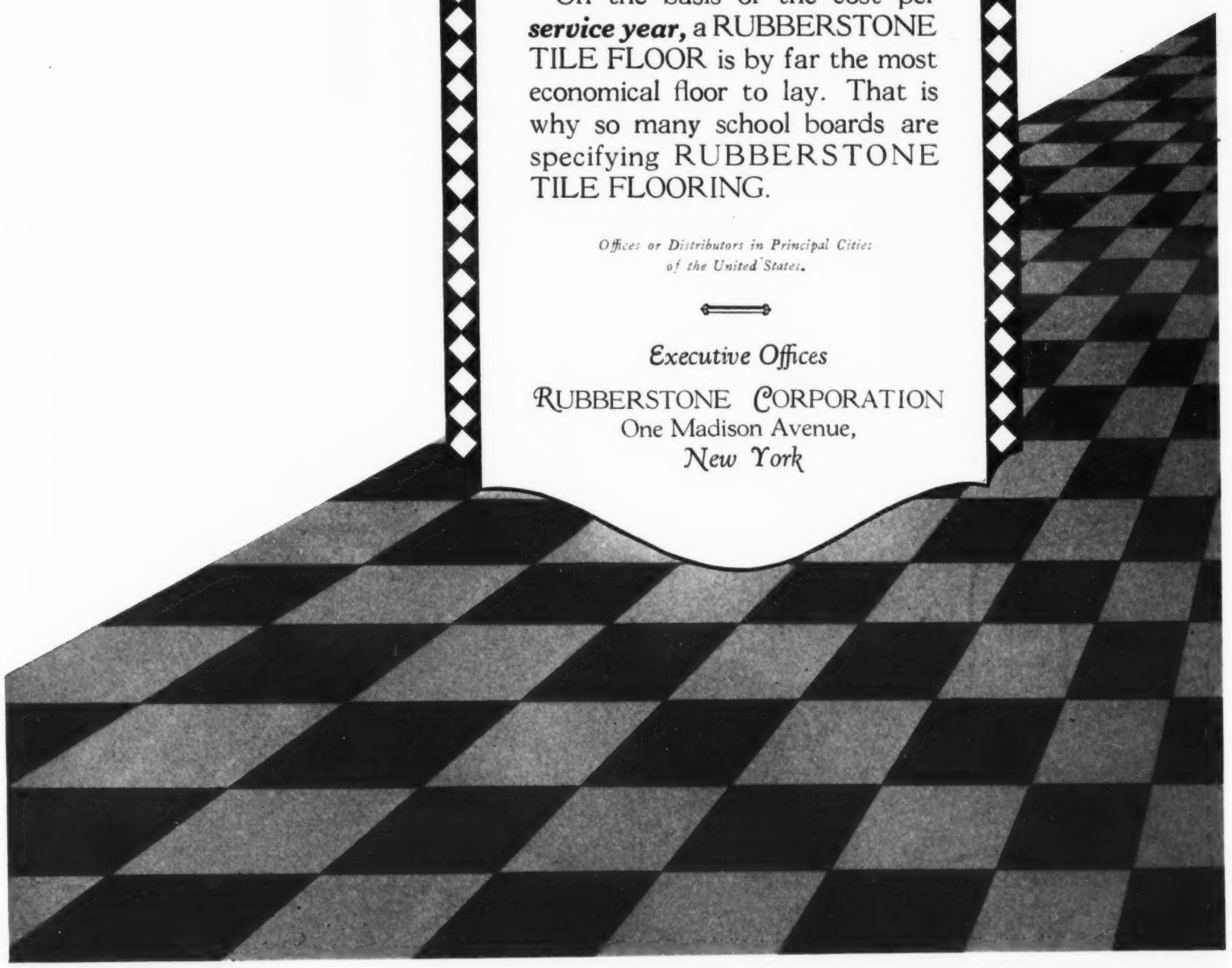

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DENZAR

THE FUNCTIONS OF THE SCHOOL SUPERINTENDENT IN THEORY AND PRACTICE

(Concluded from Page 72)

ing does not involve expert and fine ability is not denied here, but this activity should claim but little or none of the superintendent's time. Theoretically, therefore, the superintendent should be primarily a leader, a leader of teachers, a leader in his profession, and a leader of the community in which he works.

In practice, however, the school superintendency falls short of this ideal. The reasons for this failure may be summarized as follows:

1. Lack of understanding by superintendents of what their functions really are and what their relative importance is.

2. A lack of appreciation on the part of the public and school boards of the importance of the position of the school superintendent, and a lack of understanding of the waste in time and money for the superintendent to perform other than professional duties.

3. The need for extended research along the line of the problems of the village superintendent particularly. Much has been done toward the solution of the problem of city-school administration, but the smaller towns and villages have been neglected in this regard.

4. As a result of the above points there should accumulate a literature of the problems of village-school administration, the superintendents themselves largely supplying the material.

5. More courses in schools and colleges of education bearing on the problems of town-school administration and, more particularly, emphasis on community leadership and the necessity for advertising the worth of the school.

That the superintendent will eventually attain this ideal situation there is little doubt, but the fact remains that slight progress will be made until he recognizes his prime functions and apportions his time accordingly. H. B. Wilson in a report to the department of superintendence in 1921, expresses the idea as follows:

"In view of the various pressures and demands put upon the superintendent's time, it is evident that it should be carefully apportioned on the basis of a complete understanding of his duties and responsibilities as the executive and professional head of the school system in his community. That the superintendent of schools may not be a mere weather vane indicating by the use he makes of his time the demands made by others, he must construct with approximate scientific accuracy a time schedule for his guidance. Against this theoretical schedule he should regularly check his record of the actual uses of his time. He would thus cease to be a weather vane, and would become educationally a real rudder and guide in his community."

Irrigation vs. Cloudburst in Getting Money

William H. Allen, New York, N. Y.

During the world war there was need for funds whether people understood or not. At least that was the theory upon which the popular drives were conducted. Like most other emotions at white heat, patriotism feels more than it thinks. Self-preservation acts and thinks later if there is time. Family solidarity is a matter of feeling and acting rather than of understanding. So for school-building funds, many of us carried over from war times the attitude that communities should jump to the rescue and then, if any time was left, try to understand what good they had done and what needs they had met.

Looking back, it is not so clear that even in war time there is more need for haste than for understanding. I had a personal experience that may now be told and that illustrates the reason why many school boards are finding it hard to get enough money from their taxpayers to meet school needs adequately.

We had put out a post-card bulletin with 20 true-and-false statements about the war. One of these was introduced for a bit of humor: "Be neutral even in thought has been ex-President Roosevelt's slogan." I sent a copy to Roosevelt thinking it would amuse him. On the contrary he was quite provoked. Besides writing me two or three letters defending his indignation, he wrote the Secret Service which asked me to come over. "What are you trying to do?" was my greeting. The answer led the officer to look over the test carefully. He turned to his assistant and said: "I'd hate to have my patriotism rated according to my ability to answer these questions." It turned out that both of these disloyalty hunters were not only wobbly but absolutely wrong about several of the most important facts. This strengthened my contention that our boys in France did not know enough about why we were in the war and why they were at the front. Fortunately we were so rich in men and money and our opponents so weakened by three years of war that our educational unpreparedness did not obviously weaken us.

Now, however, ten years after the armistice, communities do not have to stand and deliver a half million or ten millions just because a board of education wants to put through a building program. Taxpayers have the time

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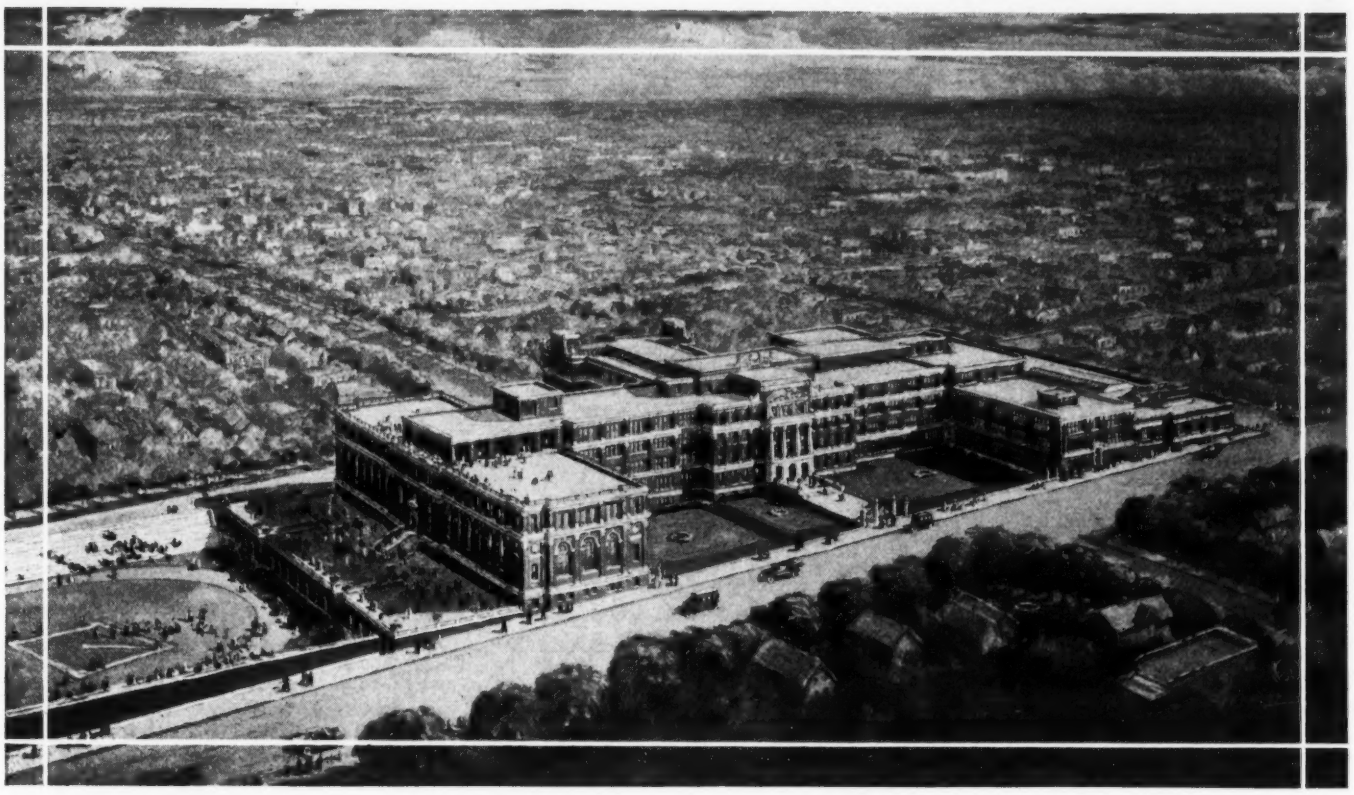

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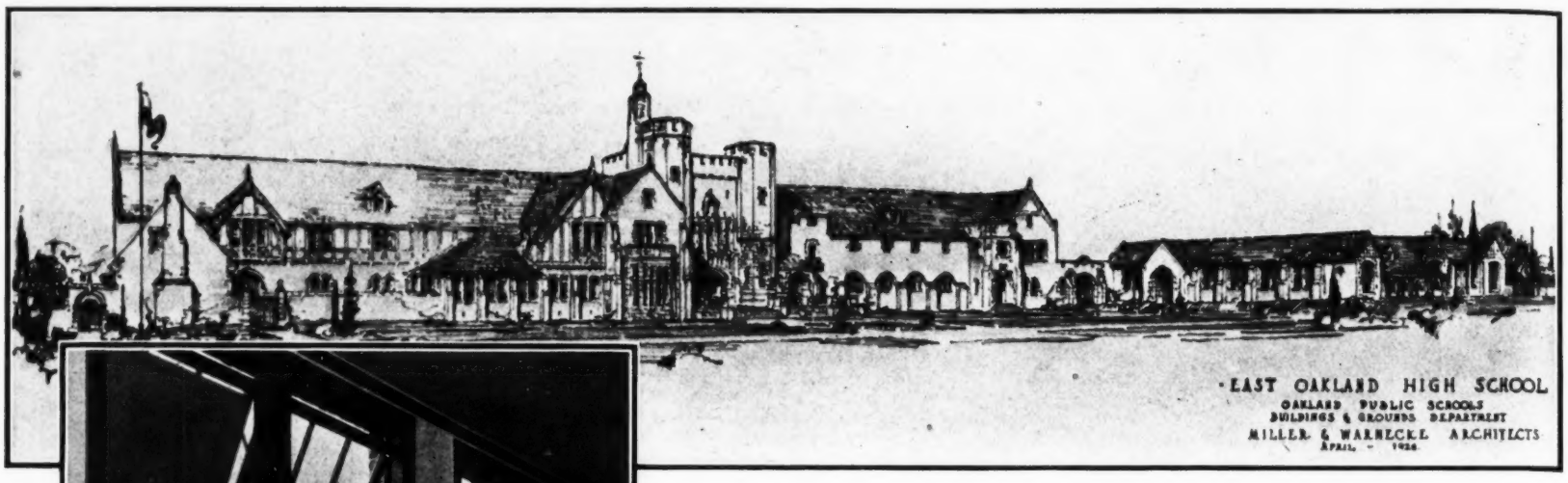

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(Concluded from Page 74)

and inclination to ask why and wither. They are gun-shy and they are propaganda-shy, too. They are likely to revolt against the cloudburst method of being won over. They resent being stampeded; they want to be shown. In other words, they ask to be educated, to be informed before they are agitated.

It was my privilege lately to see a city of 25,000 in the act of being educated by the irrigation method, a little at a time, to bond itself for school relief by erecting a new building for the junior high school. The educational method used by citizens and schools may help some other city.

An earlier vote ran big against a bond issue. It had been sought by the board of education. It left a wake of opposition. Yet it also left problems unsolved, congestion indefensible, and housing conditions that endangered health and safety. What should be done?

The city was Gloversville, New York. One of its citizens to whose family the city owed much of its fame as a glove center besides important benefactions, a former congressman now living most of the time in New York City, called a meeting of twenty leading citizens. He was Lucius N. Littauer. His meeting led to a permanent committee and a campaign of slow education by information rather than by exhortation. The events which I was permitted to observe were the following.

The campaign had two weeks to run. The citizens insisted that the work should be done for the public's children and by the public. The members of the board of education frankly stated that, while it knew the new building would do what they said it would and was needed, it was the public's servant. If the parents did not want better conditions after learning the alternatives, the elected board would wait and do its best with the old building. The superintendent, Harry W. Langworthy, said he would give facts to anyone and just as freely to those who opposed the bond issue as to those who favored it.

The citizens' committee named a committee on explanations, avoiding the term "publicity" and the connotation of it. It asked for questions. Within ten minutes from the receipt of the three first questions the explanation chairman, Albert Aaron, was answering them—and they were leading, skeptical questions, too—to two assemblies of high-school and upper-grade pupils in a way that was published in the two daily papers.

There was a meeting to plan the last days' work. The explanation chairman arranged it in the name of the acting chairman, a former state senator and now chairman of a flood-relief commission. It is obvious that it was good education to have a man of such responsibilities serving as chairman, because doubters knew him as a man of large affairs accustomed to having questions answered by engineers and economists. At that dinner conference were several who were suspected of being not only lukewarm but actually hostile toward the bond issue. "We want to face the worst" was the idea. A good part of the meeting was given to drawing out their questions and the views as to what doubts still existed among sincere people.

"You tell a story that is too good to be true" two or three said. They meant that many people could not see how a $350,000 addition could be built without increasing the tax rate. The increased state aid was shown to be a complete guaranty. "Tell the voters that plainly" they said, and of course it was done.

The mayor said that he felt it necessary to have the statements "convincing rather than moving." He was seeing about eighty people a day in his business. They could be informed but he doubted if they could be stampeded. His caution was found helpful and the committee almost leaned backward to be sure that it was giving the voter facts with which to make up his own mind.

To me one of the most interesting of all sights in this educational campaign was the committee's meeting with school teachers and pupils. Never before had I heard business men rely so exclusively upon fact and reason when dealing with school folks. Too often speakers feel that they must be stirring, eloquent, irresistible. These Gloversville teachers and children surely felt what they were expected to do and be with regard to the bond issue what in theory they are with respect to scholastic matters. They were supposed to use their heads and move fact first. They were requested to ask questions and to invite the parents to ask questions. It is true they were told that they had a special trusteeship because they had special knowledge, but the trusteeship was because of their knowledge of the community's need and not because they themselves wanted a new building.

As it turned out, the vote was nearly three to one for the $350,000 bond issue. From my point of view, Gloversville education and Gloversville business would have been better off without a new building if not deprived of this irrigational method than with a new building obtained by the cloudburst method of "Fall in line, vote first and find out why later."

—New York City's share of the state appropriation for public-school support is $33,723,734. The check, which is the largest ever drawn on the state, represents an increase of $10,338,664 over last year, which had been the record for a single state payment.

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SCHOOL LAW

Schools and School Districts

The validity of an independent school district can only be determined in a suit brought by or under authority of the state.—Tilton v. Dayton Independent School Dist., 2 Southwestern Reporter (2d) 889, Tex. Civ. App.

School-District Government

That the combined vote of a high-school board and an elementary-school board was 6 to 4 in favor of a joint meeting permitted no inference that a majority of the high-school board favored a joint meeting.—Cloverdale Union High School Dist. of Sonoma county v. Peters, 264 Pacific Reporter 273, Calif. App.

A high-school board cannot delegate to an elementary-school board the power to determine the question of a joint meeting.—Cloverdale Union High School Dist. of Sonoma county v. Peters, 264 Pacific Reporter 273, Calif. App.

School-District Property

An oral agreement by two school directors for drilling a well, not pursuant to authority given at a board meeting, is held not to make the district liable (Missouri revised statutes of 1919, § 2164).—Miller v. Alsbaugh, 2 Southwestern Reporter (2d) 208, Mo. App.

A written agreement subsequent to the drilling of a well to issue a school warrant therefor is held not to take the place of a written contract required before the work was done (Missouri revised statutes of 1919, § 2164).—Miller v. Alsbaugh, 2 Southwestern Reporter (2d) 208, Mo. App.

A board of education is held not expressly authorized to require a bond for the construction of a school to be conditioned for the benefit of materialmen or laborers (New York education law, §§ 300 and 875, subd. 8, as amended by the New York laws of 1917, c. 786).—George W. Maltby & Sons Co. v. Wade, 227 N. Y. S. 90, 131 Misc. Rep. 143, N. Y. Sup.

A materialman could maintain an action on a bond issued to a general contractor constructing a school, where a bond authorized the materialman to sue as though named therein.—George W. Maltby & Sons Co. v. Wade, 227 N. Y. S. 90, 131 Misc. Rep. 143, N. Y. Sup.

Under a surety bond, a cause of action for materials in constructing a schoolhouse accrued on completing the deliveries, though the contract provided for partial payments each month.—George W. Maltby & Sons Co. v. Wade, 227 N. Y. S. 90, 131 Misc. Rep. 143, N. Y. Sup.

A materialman's cause of action on a bond for erecting a schoolhouse could not accrue until the city was fully protected on the general contractor's default.—George W. Maltby & Sons Co. v. Wade, 227 N. Y. S. 90, 131 Misc. Rep. 143, N. Y. Sup.

A contract authorizing a school board's extension of time without liability for delay is held inapplicable to unreasonable delay, justifying the contractor's abandonment of the contract.—John T. Brady & Co. v. Board of Education of School Dist. of City of New York, 226 N. Y. S. 707, N. Y. App. Div.

School-District Taxation

A special election in a school district was controlled by an act under which it was held as regards furnishing the registrar of voters with a list of the taxpayers (La. act No. 46 of 1921, ex. sess. 14).—Gauthier v. Parish School Board of Avoyelles Parish, 115 Southern Reporter 479, La.

A special election in a school district to incur a bonded indebtedness of $60,000, is held not void, where the valuation of the property according to the last preceding assessment was $710,000 (La. constitution, art. 14, § 14, subd. f).—Gauthier v. Parish School Board of Avoyelles Parish, 115 Southern Reporter 479, La.

The facts are held to show that a special election in a school district to incur bonded indebtedness was not held without a registrar's list of persons qualified to vote.—Gauthier v. Parish School Board of Avoyelles Parish, 115 Southern Reporter 479, La.

The county commissioners are liable for amounts set up in a budget by the board of education for purposes prescribed and for further expenditures commissioners approve (c. s. supp. 1924, §§ 5464, 5533, 5605).—Hampton v. Board of Education of New Hanover county, 141 Southeastern Reporter 744, N. C.

Teachers' contracts, amounting to less than the total of the school budget, are held to be within the amount set forth in the budget, though exceeding the item allowed for teachers' salaries (c. s. supp. 1924, §§ 5464, 5606).—Hampton v. Board of Education of New Hanover county, 141 Southeastern Reporter 744, N. C.

Teachers

Where a teacher's contract is agreed on at a regular meeting of the school board, a contract may be executed subsequently and the officers of the board may sign it at different times (Calif. political code, § 1607, subd. 1).—Cloverdale Union High School Dist. of Sonoma county v. Peters, 264 Pacific Reporter 273, Calif. App.

A tender of resignation by a teacher under a contract to teach is not binding on either party until accepted by the board assembled as such (West Virginia code, c. 45, § 45).—LeMasters v. Board of Education of Grant Dist., 141 Southeastern Reporter 515, W. Va.

A tender of resignation by a teacher under a contract to teach may be withdrawn at any time before its acceptance by the board assembled as such (W. Va. code, c. 45, § 45).—LeMasters v. Board of Education of Grant Dist., 141 Southeastern Reporter 515, W. Va.

Charges against a school principal relating to a period not included in an employment contract is held properly excluded, in an action for damages for dismissal.—Hooper v. Wickes, 263 Pacific Reporter 853, Calif. App.

A mere showing of charges against a school principal and of an action thereon is held an insufficient defense in a principal's action for damages for dismissal (Calif. political code, § 1609, subd. j).—Hooper v. Wickes, 263 Pacific Reporter 853, Calif. App.

NEW YORK COURT OF APPEALS DECIDES MARION CASE

The New York State Court of Appeals, in the case of Jacob Adriaansen against the board of education of School District No. 1 of the town of Marion, in Wayne county, unanimously affirmed a decision of the appellate division.

The court action was brought by the plaintiff as a taxpayer of the town of Marion, to enjoin and restrain the board of education of the district from taxing the plaintiff's property for the payment of the principal and interest on bids issued by the district before the district was enlarged by annexation of districts in which the plaintiff's property was located.

It was argued by the plaintiff that since his property was not within the district at the time the bonds were voted and issued, and that since the order dissolving the district and annexing it to the union school district had been made without the consent of the voters or of the trustees, the

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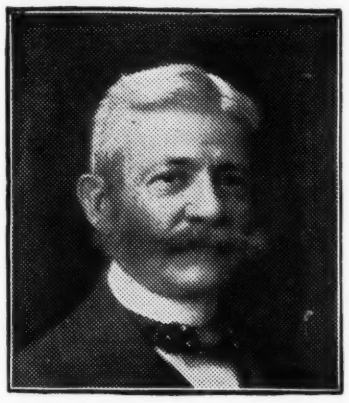

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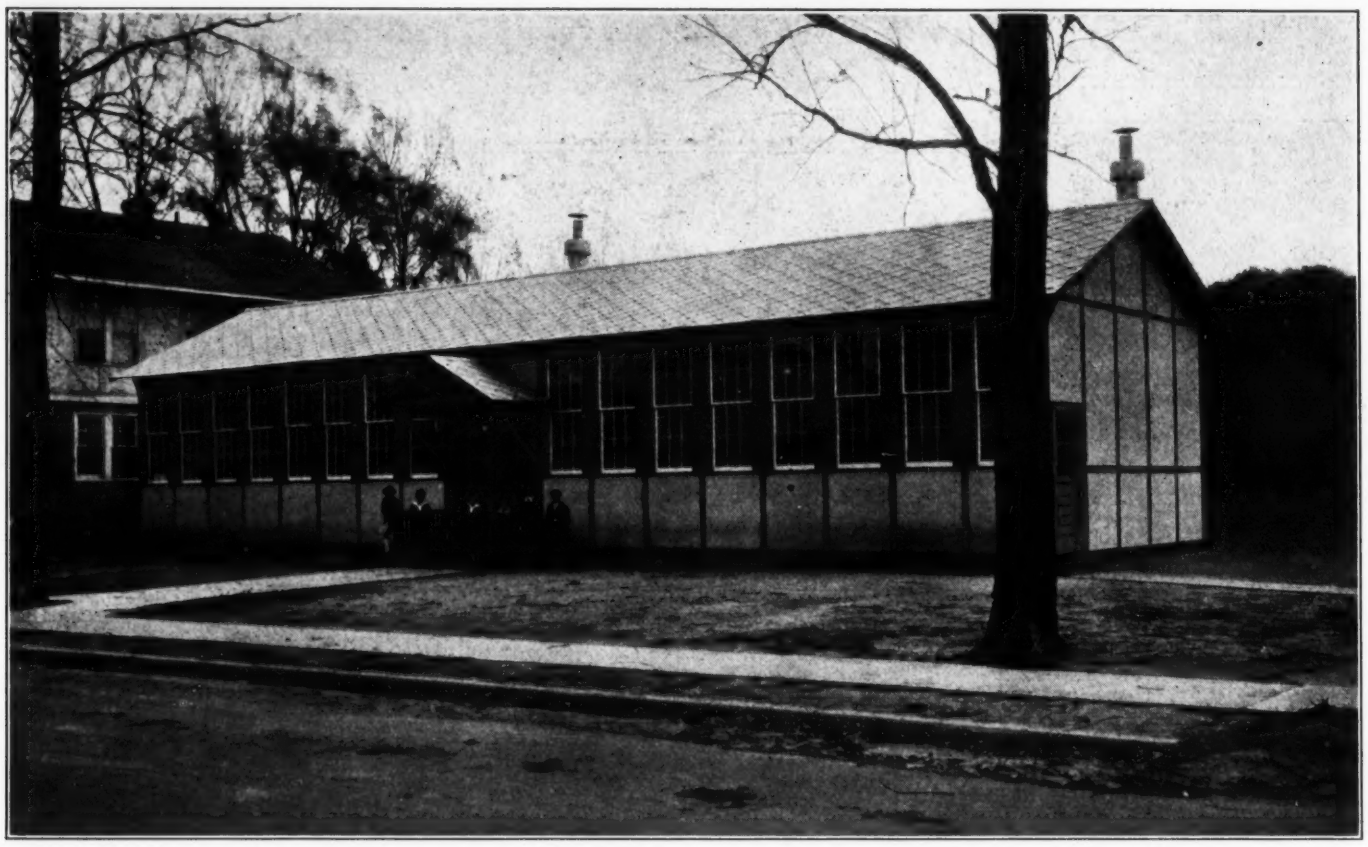

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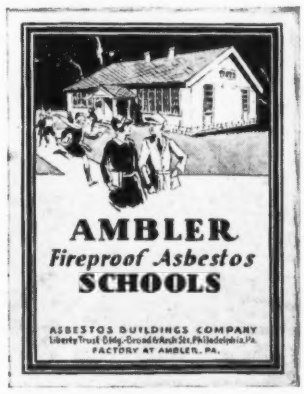

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(Concluded from Page 78)

property was not subject to taxation for the payment of the bonds.

The law applicable to such a situation is that property in the territory annexed is liable to assessment for the payment of bonds and liabilities of the municipal corporation or district to which the territory is annexed. The fact that persons and property in the district annexed may be subject to taxation to pay bonds and obligations theretofore voted without having had their voice or vote in creating the liability, does not render the act of annexation void. There is no contract between the citizens of a particular municipality and the corporation that the property within the particular territory shall not be taxed for the benefit of another municipal corporation or district to which it may be annexed.

The court held that there was no provision of the education law which could be construed as intended to change the common-law rule upon the subject, and, therefore, the entire enlarged district was liable for the payment of the bonds. The decision, which brings the litigation to an end, is of considerable importance to other districts in which bonds were issued prior to the annexation of other districts under the provisions of the education law. It establishes the legality of the practice which has prevailed for many years in such districts of taxing the entire property of the district for the payment of the bonds.

BUILDING NEWS OF THE SCHOOLS

STANDARDIZATION IN THE BUILDING AND CONSTRUCTION FIELD

In 1921, when the Hoover Committee on the Elimination of Waste in Industry made its survey of the six major industries of the country, it was found that the building industry occupied the fourth place, with 53 per cent waste. Thirty-four per cent of this waste was charged to management, and one of the major causes cited was lack of simplification and standardization in materials, methods, and machinery. When it is known that $5,000,000,000 is expended in construction, some idea may be gained of the extent to which this loss reduces the country's income.

In the course of its study, the committee found that a large proportion of this variety is made up of slight dimensional differences, of models and types which are not markedly dissimilar, but which originated in an effort to be a little different. Variety is all right in its place, but when carried to excess in some directions, it places an unnecessary burden upon the manufacturers and distributors, as well as upon the customers.

The United States Department of Commerce, through the division of simplified practice, attempted to eliminate this waste by directing its efforts to the reduction of unnecessary sizes and dimensions and other immaterial differences in everyday commodities. Safeguards were set up to protect the fullest development of individual initia-

Percentages of Reduction in Variety in Building Field

S.P.R.	Items	From	To Reductions	Percentages
1	Vitrified paving brick	66	5	92
3	Metal lath	125	24	81
4	Asphalt	102	10	90
6	Files and rasps	1,351	475	65
7	Rough- and smooth-face brick	75	2	97
	Common brick	44	1	98
8	Range boilers	130	13	90
12	Hollow building tile	36	20	44
13	Structural slates for plumbing and sanitation	827	138	83
14	Roofing slates	98	48	51
16	Lumber	Standard Nomenclature Grades and Sizes		
17	Forged tools (tool heads)	665	361	46
	Eye sizes	120	10	91
18	Builders' hardware (items)	6,948	5,130	26
	Finishes	100	29	71
19	Asbestos millboard (sizes and thicknesses)	21	4	81
	Asbestos paper (sizes and widths)	72	16	78
21	Brass lavatory and sink traps	1,114	76	93
25	Hot-water storage tanks	120	14	88
26	Steel reinforcing bars	32	11	66
28	Sheet steel	1,819	261	85
29	Eaves trough and conductor pipe	21	16	24
30	Terne plate (weights)	9	7	22
32	Concrete building units (tile and brick)	115	14	88
38	Sand lime, brick (length, width, and height)	14	3	79
43	Paint and varnish brushes	480	143	70
45	Grinding wheels	715,200	2,254,400	64
47	Cut tacks and small cut nails (sizes)	421	182	57
	Packing weights	423	121	71
48	Shovels, spades, and scoops	5,136	2,178	57
49	Sidewalk lights (styles)	80	5	94
	Sizes	120	6	95
	Shapes	10	2	80
51	Die-head chasers	...	...	75
52	Staple vitreous china plumbing fixtures	441	58	87
53	Steel reinforcing spirals	7	4	43
57	Wrought-iron and wrought-steel pipe, valves and pipe fittings.			
	Sizes of valves and fittings	20,000	19,238	4
	Sizes of pipe	62	49	21
61	White glazed tile and unglazed ceramic mosaic	(Shapes, patterns, dimensions, grades, grade marks, specifications)		
71	Turnbuckles	248	115	54
72	Solid section steel windows	42,877	2,244	95
76	Ash handles (grades)		3	
77	Hickory handles (grades)		11	
82	Hollow metal doors	Provides for stock items		
83	Kalamein doors	Provides for stock items		
87	Forms for concrete ribbed-floor construction (widths)	7	2	71
90	Hack-saw blades	108	52	53

Again—Imperial Sets A New Standard

This trade mark, on all of our desks, is your guarantee of service, satisfaction and consistent good quality.

Throughout their many years of service in the school field Imperial Desks have been accepted as the Standard in teachers' desks. As you well know, improvements and refinements are constantly being made in teachers' desks. Imperial has been concerned only with the newest and best desks for school use. That is why Imperial has established this new high standard for this year.

Besides our old established line, which has been improved upon, we have developed a new line of 30 inch desks. The new line contains large, roomy, well built desks of plain oak at surprisingly low prices. The old line now has quartered oak tops and drawer fronts at the same moderate cost.

The quality construction of Imperial desks is responsible for their appearance and durability. Faultless designs and beautiful finishes permit them to be used in the finest schools. And their long life of trouble-free service makes Imperial desks the logical choice for repeat orders.

Let us send you details and give you the name of our nearest school supply jobber.

IMPERIAL DESK COMPANY — Evansville, Indiana

tive and invention, as well as to care for the changing trends in business. This was done by providing that the simplified practice recommendations be subject to review at the end of such period as fixed by the industry. A resurvey was conducted by a standing committee representing all factors in the industry, and through a conference of producers, distributors, and organized users.

As a result of the resurvey, the percentages of reduction in variety have been rather startling, especially regarding the application of simplified practice in the building and construction field. They are as follows:

The report on the progress of the work during the year shows that for the first quarter of 1928, there were eight projects handled by the standing committee. Of this number, two were revised and six reaffirmed. The average degree of adherence to the eight projects was 89.18 per cent, based on factual surveys. Fifteen projects were reviewed during 1927, of which the average degree of adherence was 82.61 per cent.

Evidence of the value of simplification to the manufacturers and consumers is found in the increased number of trade associations accepting the recommendations. During the first quarter of 1928, the number of acceptances increased by 5 per cent, bringing the total to 859, while individual acceptances increased 11 per cent, making the total 8,597.

The contribution which simplification is making to the stability and prosperity of American industry is reflected in the savings which have been produced through simplification. Industrial leaders estimate the aggregate of the savings at more than $500,000,000 a year. Typical annual savings due to elimination of unnecessary sizes and dimensions of commonplace articles are as follows:

Typical Annual Savings Due to Elimination of Unnecessary Items

Items	*Estimated Annual Savings*
Paving brick	$1,000,000
Steel sheets	2,400,000
Reinforcing bars	4,500,000
Range boilers	5,500,000

The elimination of 60 per cent of the variety in sizes in softwood lumber is estimated to have reduced inventories by 4,000,000,000 board feet, thus releasing some $200,000,000 of relatively idle capital. During the year, the lumber simplification program has been given increased impetus through the development of grade-marking in cut lumber.

AN ARGUMENT FOR LARGE SCHOOL BUILDINGS

Mr. W. C. McGinnis, superintendent of schools at Revere, Mass., in a recent report, presents the results of a study of costs for janitor service in 220 schools in 28 cities. Mr. McGinnis, in his report, makes a strong argument for large school buildings on the basis of the cost of janitor service, and attempts to prove that a small number of large buildings offers better economy in administration than a large number of small buildings. In connection with his study, he finds that the local average per-pupil cost for janitor salary service is $6.76, while the average salary of janitors is $1,692. The median salary is $1,771.

In a study of the Scranton, Pa., school system, it is noted that the total cost of janitor and principal service is much less in a system of large buildings. The table below shows the cost of principal and janitor service per pupil in 220 schools in 28 cities:

Cost of Principal and Janitor Service in 220 Schools

Buildings	*Number*	*Median Per-Pupil Cost*
1 to 4 rooms	57	$11.06
5 to 8 rooms	39	8.06
9 to 12 rooms	62	6.21
13 to 16 rooms	34	5.16
17 to 20 rooms	17	5.07
21 to 24 rooms	8	4.08

Cost of Principal and Janitor Service in Revere

Building	*Number*	*Per-Pupil Cost*	*Pupils Enrolled*
Howe	9	$12.73	322
Walnut	9	10.65	305
Shurtleff	9	10.44	332
Highland	9	8.58	373
McKinley	12	8.37	452
Bradstreet	13	9.31	461
Liberty	16	8.71	550
Wolcott	19	7.50	656
Lincoln	23	4.98	940
Revere	26	6.58	940

Mr. McGinnis shows in these two tables, that the cost of principal and janitor service per pupil is greatest in the smallest buildings, and that it decreases according to the increase in the size of the buildings. Sufficient evidence is given to prove that large schools are more economical to operate than small schools.

In another table, Mr. McGinnis gives the annual per-pupil cost of janitor service in 16 schools for the year ending in June, 1925.

Annual Per-Pupil Cost of Janitor Service in Revere

School	*Number of Pupils*	*Per-Pupil Cost*
High school	1,359	$ 8.93

(Concluded on Page 84)

Cost of Janitor Service in Revere According to Buildings and Number of Janitors

Schools	*Number of Janitors*	*Weekly Rate*	*Yearly Salary*	*Cost Per Pupil*
Supervising	1	$ 44.02	$ 752.78	.....
High school	8	250.00	13,022.73	$ 9.01
Achenbach	1	36.00	1,875.27	10.25
Barrows	1	38.00	1,979.45	5.17
Bradstreet	1½	48.00	2,500.36	6.27
Garfield	1	37.00	1,927.36	5.31
Howe	1½	53.00	2,760.82	8.63
Liberty	2	72.00	3,750.55	6.84
Lincoln	2½	86.00	4,479.82	4.10
Mabie	1	32.00	1,666.91	14.75
McKinley	1½	48.00	2,300.36	4.23
Pasteur	1	34.00	1,771.09	9.57
Revere	3	98.00	5,104.91	5.06
Roosevelt	1	34.00	1,771.09	18.07
Shurtleff	1	34.00	1,771.09	5.06
Waitt	1	38.00	1,979.45	12.53
Walnut	1	35.00	1,823.18	6.10
Wolcott	2	67.00	3,490.09	5.80
Totals	32	$1,084.02	$54,927.31	$136.75

Adjustaplex
Model No. 627

The movable "Adjustaplex" permits flexible seating arrangements for group instruction. Easy to adjust. Easy to sweep. Kundtz Eclipse construction makes them practically indestructible. Crystal finish.

Steel Combination Stationary
Model No. 301

Built into this model are all the requirements of school equipment, beauty, stability and economy which mean graceful design, sturdy construction and low maintenance cost.

Combination Adjustable
Model No. 200

The Kundtz adjustable type of desk is probably the most practical type of school equipment because of the ability to care for students of various sizes. Adjustment is extremely simple. Metal parts finished in black enamel.

Single Pedestal Study Top-Adjustable
Model No. 876

Study top instead of book space. Used in study halls and particularly adaptable in schools using platoon system. Kundtz Crystal finish and sturdy construction.

Auditorium Chair
Model No. 11D

The graceful, modern design of this auditorium chair is beautiful, yet simple, and allows for easy cleaning. The design of the back and seat are ideal for comfortable seating. Furnished with or without tablet arm.

BUY IN JULY -avoid Delay

NEW school furniture will mean greater efficiency. Take delivery at once — late orders cause disappointment.

BE SURE to see the new Kundtz Crystal Finish desks and chairs. Note beautiful finish in panel above.

Tablet Arm Chair
Model No. 702

The latest design in tablet arm chair, adjustable to fit the student, movable for group instruction, rigidly constructed. The new "Crystal" finish will withstand the severe use to which movable school furniture is subjected.

Single Pedestal Adjustable
Model No. 801

A single pedestal adjustable desk. Easy to sweep around. Beautiful Kundtz crystal finish. Extra large base. Easiest desk to adjust. Correct posture assured.

Adjustable Steel Desk and Chair
Model No. 404

Kundtz Eclipse adjustable desks are level at all times. Swivel seat allows correct posture at any angle. All Kundtz desks are equipped with the new Kundtz noiseless desk stop.

Single Pedestal Stationary
Model No. 851

Companion desk to No. 801 and especially satisfactory in high schools and in certain college classrooms. Like all new Kundtz Eclipse desks, has Kundtz Crystal Finish.

Kundtz Eclipse Portable Chairs
Model No. 115

The woods used are finest obtainable All face veneers are of Birch. Backs housed into a solid 3 inch bent top rail, also into the legs. The seat is of 5-ply laminated construction ½" thick. Bent legs eliminate all cross grain.

The Theodor Kundtz Company

CHURCH AND ECLIPSE AUDITORIUM SEATING

SCHOOL FURNITURE

Cleveland Ohio, U.S.A.

Assembly Seating

The features of No. 251 are so distinctly favorable in its type as to make it a class by itself. Its continuous back, serpentined to comfortable curves, covers the necessity of reinforced glued tenons or dowels. The folding seat, frictioned, is dadoed to steel arm supports—avoiding a glued framed-up construction. It is frictioned to prevent noise and does not hit the back when folded. The shape and thickness of the legs overcome splitting or chattering over the floor. When folded, these chairs stand alone with the feet on the floor. They are sturdy, comfortable and good-looking chairs.

New Jersey School Furniture Co.
Trenton, N. J.

(Concluded from Page 82)

Achenbach	165	10.40
Barrows	330	5.20
Bradstreet	367	6.73
Howe	262	9.43
Liberty	544	5.93
Lincoln	1,011	4.14
Mabie	123	13.11
McKinley	469	4.84
Pasteur	157	10.93
Revere	954	5.02
Roosevelt	53	33.36
Shurtleff	332	5.17
Waitt	164	9.84
Walnut	290	6.10
Wolcott	957	3.59

Still another table shows that the cost of janitor service was greatest in the smallest buildings for the year ending February, 1927.

In the final table, Mr. McGinnis shows the relationship between the size of school and the per-pupil cost of teaching.

Relation Between Size of School and Per-Pupil Cost

School	*Number of Teachers*	*Annual Salary*	*Per-Pupil Cost*
Roosevelt	4	$ 5,400	$55.10
Waitt	6	8,000	50.63
Revere	28	40,930	40.56
Lincoln	30	43,360	39.71

Building News

THE EVALUATION OF JANITORIAL SERVICE IN A SMALL SCHOOL SYSTEM

Mr. Arthur E. Warren, supervising principal of the high school at Greene, N. Y., was recently asked to effect a reorganization of the janitorial staff of the school system. In connection with the problem, Mr. Warren prepared a questionary for the purpose of determining what lines of service may be actually expected of a janitor in the performance of his duties.

In using the results of the study, Mr. Warren found that there are several ways in which the questionary may be used to advantage.

First, it may be used as a means of determining how much work a janitor may reasonably be expected to do.

Second, it may be used as a means of enlightening the board as to the amount of which the janitor ought to do.

Third, it may be used as a test of the general intelligence and ambition of an applicant for a janitorial position.

The results of the study are set forth in the following data:

A Questionary for the Evaluation of Janitorial Service in Small School Systems

1. As a general rule, janitors should be about 25, 30, 40, 50, 60, 70 years old.

2. Observable defects such as bad eyesight, loss of arm, hand, leg, etc., should disbar a man from janitorial service. Yes. No.

3. Sweeping

a) Recitation rooms should be swept 1, 2, 3, 4, 5 times each week.

b) Study halls should be swept 1, 2, 3, 4, 5 times each week.

c) Elementary classrooms should be swept 1, 2, 3, 4, 5 times each week.

d) Science laboratories should be swept 1, 2, 3, 4, 5 times each week.

e) Principal's office should be swept 1, 2, 3, 4, 5 times each week.

f) Teachers' restrooms should be swept 1, 2, 3, 4, 5 times each week.

g) Corridors should be swept 1, 2, 3, 4, 5 times each week.

h) Locker rooms should be swept 1, 2, 3, 4, 5 times each week.

i) Physical-training office should be swept 1, 2, 3, 4, 5 times each week.

j) Stairways should be swept 1, 2, 3, 4, 5 times each week.

k) Library should be swept 1, 2, 3, 4, 5 times each week.

l) Cloakrooms should be swept 1, 2, 3, 4, 5 times each week.

m) Cooking rooms should be swept 1, 2, 3, 4, 5 times each week.

n) Sewing rooms should be swept 1, 2, 3, 4, 5 times each week.

o) Training classroom should be swept 1, 2, 3, 4, 5 times each week.

p) Agricultural room should be swept 1, 2, 3, 4, 5 times each week.

q) Grade toilets (boys) should be swept 1, 2, 3, 4, 5 times each week.

r) Grade toilets (girls) should be swept 1, 2, 3, 4, 5 times each week.

s) Boiler room should be swept 1, 2, 3, 4, 5 times each week.

t) Fan room should be swept 1, 2, 3, 4, 5 times each week.

u) Sidewalks should be swept 1, 2, 3, 4, 5, times each week.

v) Gymnasium floor should be swept 1, 2, 3, 4, 5 times weekly, biweekly, monthly.

w) Gallery floor should be swept 1, 2, 3, 4, 5 times weekly, biweekly, monthly.

x) Platform should be swept 1, 2, 3, 4, 5 times weekly, biweekly, monthly.

4. Classroom furniture and fixtures should be dusted yearly, monthly, weekly, daily.

5. Floors should be mopped yearly during the three vacations, or monthly, weekly, daily.

6. Floors should be oiled annually during the three vacations, or monthly, weekly, daily.

7. Flags should be raised and lowered daily, weekly, monthly or yearly.

8. Woodwork and furniture should be polished daily, weekly, monthly during the three vacations, or annually.

9. Windows should be washed daily, weekly, monthly during the three vacations, or annually.

10. Lavatories should be cleaned 1, 2, 3, 4, 5 times each week.
Toilet bowls should be cleaned 1, 2, 3, 4, 5 times each week.
Toilet seats should be cleaned 1, 2, 3, 4, 5 times each week.
Urinals should be cleaned 1, 2, 3, 4, 5 times each week.

11. Blackboards should generally be washed 1, 2, 3, 4, 5 times each week.

12. Blackboard erasers should be cleaned 1, 2, 3, 4, 5 times each week.

13. Chalk trays should be cleaned 1, 2, 3, 4, 5 times each week.

14. Metal fixtures (door plates, handles, door knobs, electric switch plates, water faucets, etc.) should be cleaned annually, during vacations, monthly, weekly, daily, never.

15. Drinking fountains should be cleaned daily, twice each week, weekly, monthly, annually, never.

16. Garbage from the domestic-science room should be disposed of 1, 2, 3, 4, 5 times per week.

17. Wastebaskets should be emptied 1, 2, 3, 4, 5 times each week.

18. A minimum temperature of 40, 50, 60, 65, 68, 70, 72 deg. should be maintained in the building.

19. Ashes should be disposed of 1, 2, 3, 4, 5, 6, 7 times each week.

20. Boiler flues should be cleaned daily, weekly, biweekly, monthly, yearly.

21. The ventilating fan should be turned on ordinarily twice each day, daily, weekly, monthly, annually, never.

22. Ventilating apparatus should be oiled daily, weekly, monthly, annually.

23. Underline the repairs the janitor should be expected to make: window shades, electric fixtures, door locks, tools, replace broken glass, window cords, broken seats, clocks, pencil sharpeners.

24. Underline clerical duties the janitor should be expected to perform: measure, check, and sign receipts for janitorial supplies; make requistions to be signed by the principal; take yearly inventory of all supplies and tools on hand, read electric and water meters, report fuel on hand, repairs needed.

25. The janitor should keep a record of room temperature. Yes. No.

26. Underline tasks the janitor should perform: remove rubbish from the yard, cut grass and weeds, sweep sidewalks and steps, shovel snow from sidewalks and steps, trim trees and shrubs.

27. The janitor should ring the school bell in the morning and at noon. Yes. No.

28. The janitor should be responsible for the proper care of the system of clocks and fire gong. Yes. No.

29. The janitor should replenish toilet supplies (paper, towels, soap) twice each day, daily, twice each week, weekly.

30. The janitor should adjust the adjustable seats and desks to fit the children. Yes. No.

(Concluded on Page 86)

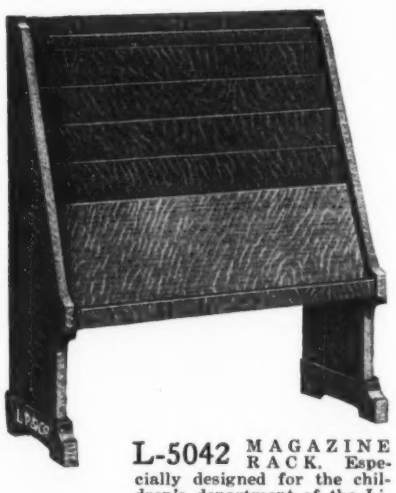
Peterson Furniture
for Laboratory and Library

YOUR SCHOOL IS BUILT FOR TO-MORROW'S NEEDS—IT SHOULD BE EQUIPPED IN LIKE MANNER. For over thirty-seven years Peterson's skilled craftsmen have been assembling Laboratory and Library equipment of quality—equipment which has given satisfactory service under the severe tests of hard daily usage. Their pride of workmanship combined with the best of materials and modern methods assure the Schools of today the ultimate in service for years to come.

L-5060 READING TABLE of improved construction, assuring absolute rigidity — legs equipped with cast brass sockets.

939 STUDENT'S CHEMICAL AND AGRICULTURAL TABLE. A dual-purpose laboratory table. Ample storage space for sixteen students—Open spaces below provide knee room when in use.

1135 STUDENT'S BIOLOGY TABLE, a double-duty laboratory and recitation table, where it is preferable to have students face one way.



L-5042 MAGAZINE RACK. Especially designed for the children's department of the Library. It has five compartments of various sizes.

PETERSON SERVICE

A Department is maintained to furnish suggestions and give estimates on new installations or added equipment. Just send a rough sketch of the rooms you wish to furnish.—This is, of course, without obligation on your part.

Write for these catalogues:

LABORATORY CATALOG No. 14-N
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L-5130 CHARGING DESK designed for the smaller library with all the necessary devices for the charging system.

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Distributors conveniently located to serve you.

Prepare Lessons in Advance; Expose When Needed
Picture a blackboard that works like a giant book —four "leaves" of eight "pages"—giving the teacher *eight individual blackboards* on which to write exercises and test questions. *Eighty-four square feet of blackboard space,* convenient to handle and display to the class! This efficient, swinging blackboard is saving time and improving teaching conditions in thousands of schools throughout the nation. The photograph shows an Alternator installed behind the teacher's desk.
With the Alternator, the teacher may prepare her blackboard lessons in advance and thus save time during the school period. The lessons and tests need not be exposed to the scholars until the proper time. To swing the boards in any position, the teacher merely gives a gentle push. The boards move freely, and stand in place at any angle where stopped.
The Alternator saves time, enabling the teacher to keep lessons from day to day. It is easy to handle, as there is nothing to lift. And there is nothing to get out of order, for the patented swinging device always works perfectly! The cost is amazingly low. Write for Catalog A-3.
To the right in the photograph you will note the panels of a Miller School Wardrobe—also made by the makers of The Alternator.
K-M SUPPLY COMPANY
123 West 8th St. Kansas City, Mo.

(Concluded from Page 84)

31. It should be the janitor's job to keep inkwells filled. Yes. No.
32. Janitors must either keep the temperature above freezing at all times or turn the water off at night. Yes. No.
33. The janitor should arrange to be in the school building at noon hour on school days to supervise those who bring their dinner with them. Yes. No.
34. The janitor should be required to clean up after sick children. Yes. No.
35. The janitor should be required to lock the building after evening entertainments or other performances. Yes. No.

SCHOOLHOUSES AND SCHOOL PROPERTY IN NORTH CAROLINA

The state education department of North Carolina has issued a report in which it shows that the public-school property of the state used for elementary and secondary education was appraised at a total value of $93,892,671 with the close of the school year of June, 1927. This is an increase of 10 per cent, or $9,350,843 over the previous year. Comparing the value of school property for the same purpose five years previous, it is noted that the present figure is two and two thirds greater than that of 1921-22. Then, school property was valued at $35,268,970; now, it is $93,892,671.

The increase in the value of the school property has been partly due to the stimulation afforded by the state in providing the three special building funds of $5,000,000 each. These funds have enabled the county boards of education to borrow money for the erection of buildings with not less than five rooms, at a rate of interest not always obtainable by local bond issues.

The report shows that, at the close of the school year 1926-27, there was a total of 6,529 schoolhouses in which instruction was given to all children, white, colored, Indian, enrolled in the elementary and secondary schools of the state.

The aggregate number of schoolhouses used for school purposes increased from 1904-05 to 1918-19, when there were 8,239 in use. Since that time, schoolhouses have decreased each successive year due to the consolidation of small schools and the abandonment of the small schoolhouse.

The study shows that it is in the rural white schools that the greatest amount of consolidation is being effected. There are now 3,763 schoolhouses for rural white children, where in 1918-19, the year during the period from 1904-05 to the present when there was the greatest number, there were 5,532. In other words, there are now 1,769 fewer schoolhouses in use for rural white children than there were in 1918-19.

The number of schoolhouses used by colored children remains at about the same figure from year to year. As a matter of fact, there has been a slight increase in number since 1904-05, although there are not quite as many as there were in 1917-18 and in 1921-22.

In 1926-27, the average value of school property per schoolhouse was $14,380; in 1919-20, it was $3,009, and in 1904-05 it was only $432. The average value per schoolhouse used for the white race was $20,561 in 1926-27, whereas in 1919-20 it was only $3,903. The average of colored-school property per schoolhouse increased from $978 in 1919-20 to $3,898 in 1926-27. The study shows quite conclusively that there are a few schoolhouses in the state with small values attached to them. At the rate of increase in value within the past several years, it will not be long until the small schools will have disappeared, and in their places modern structures will be found.

The data gives by races the comparison between rural and city schools on three items. The 3,763 rural schoolhouses in use in 1926-27 by white children were appraised at $45,501,416, or $12,092 each. The 344 city schoolhouses, on the other hand, were valued at $38,943,528, or $113,208 per schoolhouse.

Nearly three fourths of the school enrollment is in rural systems, whereas only 52 per cent of value of school property is located in rural sections of the state. The average value of a rural schoolhouse for the white race in 1926-27 is about the average value a city schoolhouse was in 1904-05.

The same disparity exists between rural and city schools for the colored race. The average rural school of today, 1926-27, however, is not yet equal in value to the city schools of 1904-05. The total value of school property used for the colored race is $9,447,727, more than the value of all school property of 1913-14. The value of rural property only used by the colored race is nearly as much as the total value of all school property in 1906-07.

Of the 6,529 schoolhouses in use in the state there are 25,369 classrooms, an average of about four classrooms to the school building. This is evidence that there are yet many small buildings. In the 4,107 white schools there were 19,712 classrooms, and in the 2,422 colored schools there were 5,657 classrooms. In other words, the average white-school building contained five classrooms and the average colored schoolhouse contained two classrooms.

The average value per classroom in the rural white schools is $3,081; whereas in the city white systems, the average value per classroom is $7,877, more than twice as much.

For the colored race, the difference between the value per classroom in rural and city systems is even more pronounced. The average rural classroom is appraised at $952, whereas a city classroom is valued at $4,059, more than four times as much.

On an average there are 29 white pupils per classroom in all the schools of the state. The number is practically the same for rural and city schools. For the colored schools, the number of pupils enrolled per classroom is 45 for the state, 44 for the rural systems, and 48 for the city schools. Only 67 per cent of the colored enrollment is in average daily attendance.

Asheville ranks first among the eight largest cities of the state in the value of school property

(Concluded on Page 88)

THE AMERICAN SCHOOL PLANT

The United States Bureau of Education, in a recent bulletin, shows that the total number of school buildings in the country has decreased from 258,859 in 1925, to 256,104 in 1926. The decrease is attributed to the replacement of one-room schools by consolidated schools, since the number of one-room schools has decreased from 166,000 to 161,521 during the year, and 687 consolidated schools have been added.

The value of school property, as estimated by the Bureau has increased from $4,252,328,000 to $4,676,603,539 from 1925 to 1926. Of this sum, $3,567,213,562 is the value of sites and buildings, while the remainder of the total value is in equipment, such as furniture, apparatus, and libraries. The average value of school property per pupil enrolled is $189.

101 YEARS OF MANUFACTURING EXPERIENCE

This is the H-W Eclipse Adjustable Desk Set, a strong and easily adjusted unit built for service.

The H-W line of School Seats is most complete and contains many desirable models.

A SIMPLE, YET POSITIVE ADJUSTMENT!

HERE is a strong, rigid school desk with a wide range adjustment that is simple, yet positive. The wedge-chair adjustment and the vise-clamp adjustment for the desk cannot possibly loosen or work down. If you are looking for a strong, easily adjusted desk with nothing to break, get out of order, or cause you trouble, this Heywood-Wakefield Eclipse Adjustable desk set will fill your requirements.

More than 10,000 sets of this type are in use in the Panama Canal Zone and over 50,000 in the city of Boston alone. Surely such tremendous and continued orders amply prove that this Heywood-Wakefield desk is built to serve long and satisfactorily. May we tell you more about it?

The advantages of this desk and many other school units are described in our new School Furniture Catalogue. Write for a copy.

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SHELDON LABORATORY FURNITURE SELECTED BY 15,000 SCHOOLS!

The experience of the Sheldon organization in equipping over 15,000 schools and colleges insures a product that is perfected in detail of design for pedagogic efficiency and of construction for durability and service.
It has taken over a quarter of a century to build our organization, to develop the trained personnel, and to perfect the details of construction, finish, and auxiliary fittings.
The resources of the Sheldon organization are at your command to help you plan the selections and arrangements of equipment for your laboratory, home economics, and vocational departments.

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Laboratory, Home Economics, and Vocational Furniture
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(Concluded from Page 86)

per child enrollment with $485.66. High Point is lowest in the group of cities in this respect, with $181.77 per-capita value of school property. Each of the cities in this group save one, Wilmington, has a million or more dollars invested in school property for the white race. Asheville and Winston-Salem, each has over three and a half million of dollars' worth of school property for white children.

In the second group of cities, Salisbury and Gastonia are in the million-dollar class. In this group Salisbury has the largest amount, $371.79, invested per child enrolled. Henderson has the least total amount invested and the least amount based on pupils enrolled.

In the third group, Hickory, with a per-capita investment of $583.94 was the highest, and Shelby, with $129.59 per-child investment, was lowest.

The report, in brief, shows that there has been a rapid increase in the value of school property in the state during the past few years. Bigger and better, modern and well-equipped school structures are taking the place of the small one-, two-, and three-room schools built during the days of Aycock. At the same time, there still remains a great difference in per-capita investment of school property both in rural and city systems.

BUILDING NEWS

—Scotia, N. Y. Construction work has been begun on the high-school building. It is expected the building will be ready for use in September.

—San Diego, Calif. The voters of the city recently approved a bond issue of $2,313,000 for the improvement of the school plant. The proceeds of the bonds will be used for elementary- and high-school construction, and for the purchase of the state college site.

—Greenville, N. C. The contract has been awarded for the erection of the first unit of the new school for negroes. A large addition, including an auditorium and gymnasium, is being erected for the high school.

—Waterloo, N. Y. Construction work has been started on a new school, to cost $396,000. The building is being erected from plans prepared by Architect C. C. Ade of Rochester.

—Construction work has been started on the new school at Roslyn, N. Y. The building, which is entirely fireproof, will contain an auditorium-gymnasium, and will cost $190,000.

—Hempstead, N. Y. Two elementary schools will be erected, at a cost of $500,000. Mr. Ernest Sibley, Palisade, N. J., is the architect.

—Asworth, Ga. Bonds in the amount of $45,000 have been issued for the erection of two schools in consolidated districts of Cobb county. Of this amount, $25,000 is for a school in the town of Elizabeth.

—Bonds in the amount of $20,000 have been voted for a new school at Olive Springs, Ga.

—Bonds in the amount of $10,000 and $15,000 have been sold for the consolidated schools at Blackwells and Mountain View, Ga.

—At Talbotton, Ga., the voters approved a bond issue of $30,000 for a new school.

—An analysis of the acoustical conditions in the gymnasium-auditorium of the Roosevelt School, Kenosha, Wis., was recently completed by the building engineer. On the basis of the Sabine formula for reverberation, the results of the analysis were as follows:

Empty room—reverberation equals 5.0 seconds.

Average audience, 200—reverberation equals 2.8 seconds.

Maximum audience, 628—reverberation equals 1.5 seconds.

The optimum for a room of this volume—(124,000 cu. ft.) is 1.4 seconds.

The optimum is, therefore, reached with a maximum audience. Under average conditions, however, the reverberation is excessive and hearing will be difficult.

The use of Type B Celotex acoustic material upon which we have a proposal and upon which the low bid is based will give the following results:

Empty room—reverberation of 2.5 seconds.

Two hundred audience—reverberation of 1.8 seconds.

Four hundred audience—reverberation of 1.4 seconds.

The report included an estimate of the cost of the proposed acoustical treatment of the room, which is $2,356, with an allowance of $500 for materials, making a net additional cost of $1,856.

—Construction work has been begun on a new high school at Juneau, Alaska, to cost $100,000. The building will be erected from plans prepared by Architects Thomas, Grainger, and Thomas, and will be completed in September, 1928.

—Cambridge, Mass. The committee on municipal finance has voted to approve a petition of the mayor and the city council that the city be authorized to borrow $2,000,000 for the construction of school buildings. Under the bill, $1,500,000 is to be borrowed outside the debt limit, and $500,000 within the limit.

—More than a million dollars have been spent annually in Alabama during the past ten years, for the repair and construction of rural-school buildings. State aid was increased by the last legislature from $3,000 to $5,000 per county, and county high schools were made eligible for aid in the purhase of standard equipment and making repairs to buildings, on the same basis as rural schools.

A division of architecture has been established, which is charged with the responsibility of drafting plans and supervising the construction of buildings. Where state aid is given for the erection of buildings, it is required that deeds be made to the state in fee simple, and that contracts be written and accompanied by bond. Equipment must be purchased by or through the board.

—Cincinnati, Ohio. Plans have been completed for a 32-room grade school to be erected within the near future. The building will house 1,500 students and will be erected at a cost of $800,000.

—Pasadena, Calif. The board of education has appropriated $65,000 for the remodeling and enlargement of the high-school auditorium.

—Springfield, Mo. The position of supervisor of buildings and grounds has been created, with the appointment of Mr. W. H. Ipsen to the office. Mr. Ipsen has had 25 years of experience in building construction and was for several years in the building contracting business. As supervisor of buildings and grounds for the schools, he will have charge of the work formerly handled by the building committee and the superintendent of schools.

—Supt. J. H. Beveridge of Omaha, Nebr., has presented to the school board the results of a survey of the school plant. The superintendent finds that the Omaha schools will need an expenditure of $1,000,000 within the next 5 years for new buildings and sites, in order to care for the increased growth of the schools.

—Supt. William J. O'Shea of New York City, in his annual report, discusses the increases in the building program of the board of education during the last year. Two high schools and ten buildings for elementary schools, providing sittings for 4,546 high-school students, were erected. Exclusive of

(Concluded on Page 91)

There is only One Non-Colliding Chair —

It is the LAW NON-COLLIDING CHAIR

With these four Noteworthy Features

1. Non-Colliding. The chair is attached to the table by means of an oscillatory swiveling mechanism so designed as to absolutely prevent contact between the chair and the desk or table, no matter in what position the chair may be.

2. 22 inches of knee space is the only requirement for installation — a feature which means a marked increase in pupil capacity.

3. Absolutely no weight — therefore no strain—on the table leg. Even the lightest table or desk affords ample, safe support, for it simply furnishes a pivot about which the chair swings freely.

4. A single sturdy pedestal at the center of gravity carries ***all*** the weight of the occupant. The safest chair—for both pupil and furniture—made.

[Full information on the Law Non-Colliding Chair and other types of school seating will be sent to interested school executives upon request. There is no obligation involved.]

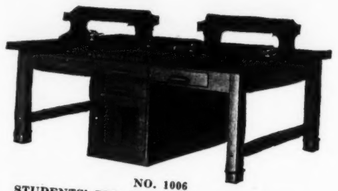
Increases Pupil Capacity

From the standpoint of economy, and aside from the saving of money ordinarily spent for repairs to desks, tables and chairs themselves, the Law Non-Colliding Chair effects an additional saving worthy of consideration—***increased pupil capacity.***

The swiveling feature permits the chair to be occupied or vacated by means of a ninety degree turn, the pupil arising from or occupying the chair from a side position. The ordinary chair necessitates its being pushed back until sufficient space is provided for arising or sitting. The Law Non-Colliding Chair, therefore, requires considerably less space, thus permitting more economical placing of desks and tables. The ultimate result is one or more additional rows of tables, a saving in space impossible with ordinary chairs.

The Law Non-Colliding Chair is particularly adaptable for use in the following departments: Biology, Chemistry, Commercial, Domestic Art, Domestic Science, General Science and Physics. It is equally appropriate for use on Clinic tables and teachers' desks. In fact, it can be used on ***any table or desk*** which provides a minimum of twenty-two inches of knee space and can be obtained with mechanism for attaching to the right or left table leg as required.

The B. L. Marble Chair Company
School Seating Division
Bedford, Ohio



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STUDENTS' BIOLOGY LABORATORY TABLE
Where a complete work table is desired, this will fill the need admirably.

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You who are charged with the responsibility of buying the equipment for schools—

Have often heard this claim—

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This is a claim that is easy to make, and many times it seems to be easy to demonstrate—by an off-hand statement.

For instance, a Kewaunee desk may be made of oak, and some other desk may be made of oak—yet that fact alone will not prove that the other desk is as enduring as Kewaunee.

A Kewaunee Desk may have 12 drawers, and some other desk may have 12 drawers—yet that fact alone could not prove the other desk to be as well equipped for laboratory work as Kewaunee.

A Kewaunee Top is chemically-treated and finished, yet the top of some other desk may be chemically-treated and finished, but any business man knows that a mere statement of that sort would not be any proof that the other desk offered as permanent and satisfactory a surface as Kewaunee.

There are many reasons why Kewaunee has earned such a reputation for pedagogic adaptability, satisfactory service under varying conditions, and long life.

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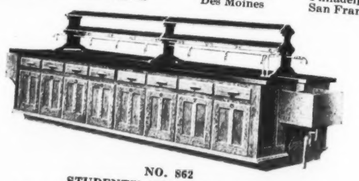

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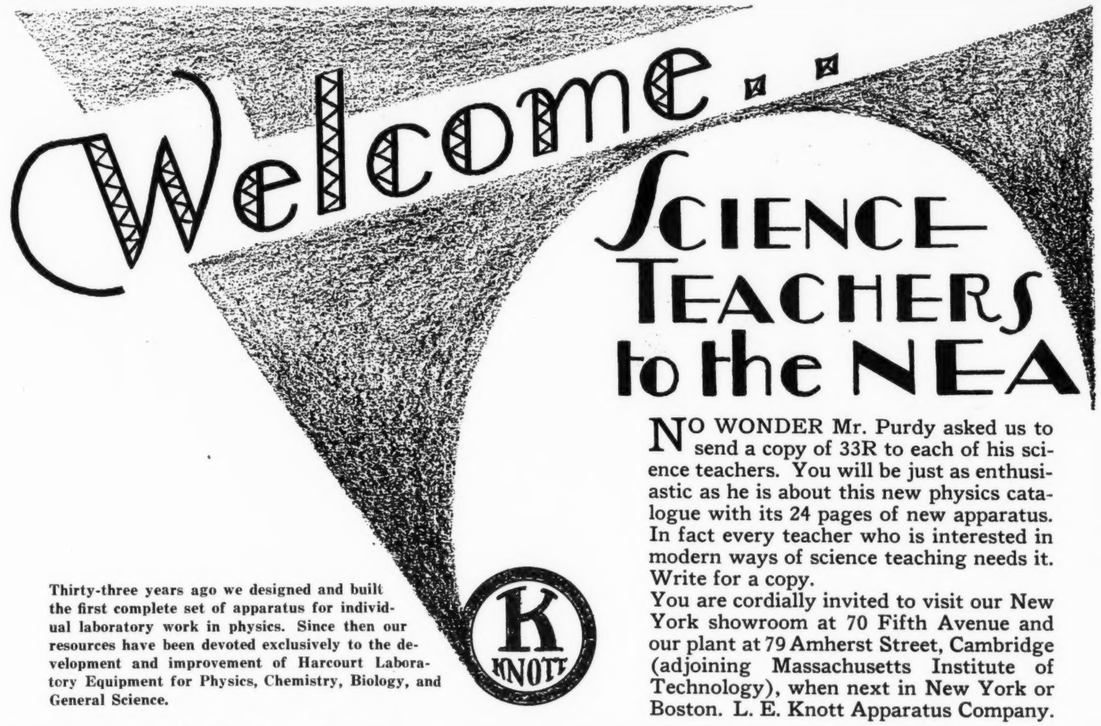

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STANDARD FOR EDUCATION SINCE 1895

(Concluded from Page 88)

the cost of the sites, the expense involved in the construction of the buildings was $8,266,361.

Supt. O'Shea also shows that 25 schools were under construction, plans and specifications approved for the John Adams High School, and 10 additional elementary schools, and plans were in preparation for 24 additional projects at the close of the school year 1927. The schools had an average daily register of 996,343, and an average daily attendance of 925,664.

—A new senior high school was occupied at Oneida, N. Y., on April 17. The building cost $350,000, exclusive of the site and equipment.

—Solvay, N. Y. School District No. 2 recently has voted to purchase three acres of land near the high school, as a site for a new grade school.

—Watertown, N. Y. The citizens recently approved a bond issue of $1,000,000 for new school construction. The program calls for two junior high schools, at a cost of $680,000; a new elementary school, to cost $225,000, and an addition to another school, to cost $100,000. All of these buildings will be completed and in use by September, 1929.

—New York, N. Y. Twelve new school buildings, with over 17,500 sittings, will be added to the school facilities in September. The structures, which are in process of completion, include two high schools and ten elementary schools.

—Buffalo, N. Y. The school board has asked the city council to include in the coming sale of bonds, $1,000,000 to cover school improvements previously approved by the board.

—Mr. S. H. Little of Morristown, N. J., has appealed to the supreme court of the state to prevent the floating of a bond issue of $400,000 for the erection of a new high school. The state board of education had previously refused to interfere with the bond issue. Mr. Little, in his complaint, pointed out that of the 759 students enrolled in the high school, more than 300 are from outside districts, and that these students cost the district $6,800 annually. He held that no law authorized the school board to provide school facilities for non-resident students.

—Boston, Mass. A public investigation of the payment by the city of $85,865 for a piece of real estate in Roxbury, assessed at $57,500, has been begun. School and city officials were present at the initial hearing. The land, which was purchased for an intermediate school, comprised about 80,600 sq. ft. It is reported that the owner had secured title to the property for $25,000.

—The voters of Hempstead, N. Y., recently approved an appropriation of $750,000 for a high school at Valley Stream.

—By a vote of 367 to 128, a bond issue of $150,000 was recently approved at Cooperstown, N. Y. The proceeds of the bond issue will be used for the erection of a gymnasium and additions to the present building.

—The Hendrick Hudson High School at Montrose, N. Y., was recently dedicated with a suitable program. The building, which cost $334,000, provides accommodations for 760 students and 28 teachers.

—Supt. Walter Schwalge has announced that construction work will be started immediately upon a four-story fireproof school building at Long Island, N. Y. The building will form an additional unit of the present high-school plant.

—Houston, Tex. The voters of the city recently approved a bond issue of $4,000,000, the proceeds of which will be used for the erection of buildings, additions to present structures, the purchase of additional grounds, and permanent equipment. The voters also approved an increase of seven cents in the maintenance tax, to be used for increasing the salaries of teachers and other employees.

—Middletown, N. J. An issue of $18,000 in 4.5-per-cent school bonds was recently purchased by the teachers' pension and annuity fund at par. The proceeds of the bonds will be used for the purchase of additional land adjoining the high school at Leonardo, to be used for an athletic field and for additional buildings.

—A high school, costing $200,000, has been completed at Palatine, Ill.

—The citizens of Sacramento, Calif., recently voted on a school-bond issue of $2,716,000 for new schools. The proceeds of the bonds will be used for new elementary schools to cost $666,000, high schools to cost $1,530,000, and junior colleges to cost $520,000.

The building program is based on a thorough study of the needs of the city-school system begun more than two years ago, and continued during the past few months by Dr. J. B. Sears, of Stanford University. It is expected that the expenditures for these new buildings will be spread over a period of four years.

—Penn Yan, N. Y. At a recent election, the voters defeated a proposition to purchase a site by 206 votes. It was agreed that a crowded condition exists in the school, but it was the opinion of the citizens that the school system owns sufficient land upon which a school building might be erected.

A proposition to raise another $5,000 to make up a deficit in the school budget was also defeated by the voters.

—A new high school was dedicated in the Sherman school district at Seth, W. Va., on April 2. Mr. R. E. Langfitt, state supervisor of high schools, was present and spoke as a part of the program.

THE PROGRESS OF SCHOOL-BUILDING CONSTRUCTION

The building of city schools is proceeding on a large scale, according to the Bureau of Education, but it is still not keeping up with the needs of a steadily increasing attendance.

The Bureau shows that of the 404 cities of 10,000 or more population reporting to the education department, 281 erected new buildings at an expenditure of $245,811,715, or an average of $874,755 for each city. If the cities reporting had averaged the same, there would have been expended in cities of this size within the two-year period, $468,502,650. Out of the $245,811,715, there were erected 432 elementary-, 165 junior-high, and 127 senior-high-school buildings, or a total of 724 buildings, at an average cost of $339,519. If the cities not reporting expended a similar amount, 1,380 new buildings would have been erected in the cities of 10,000 or more population.

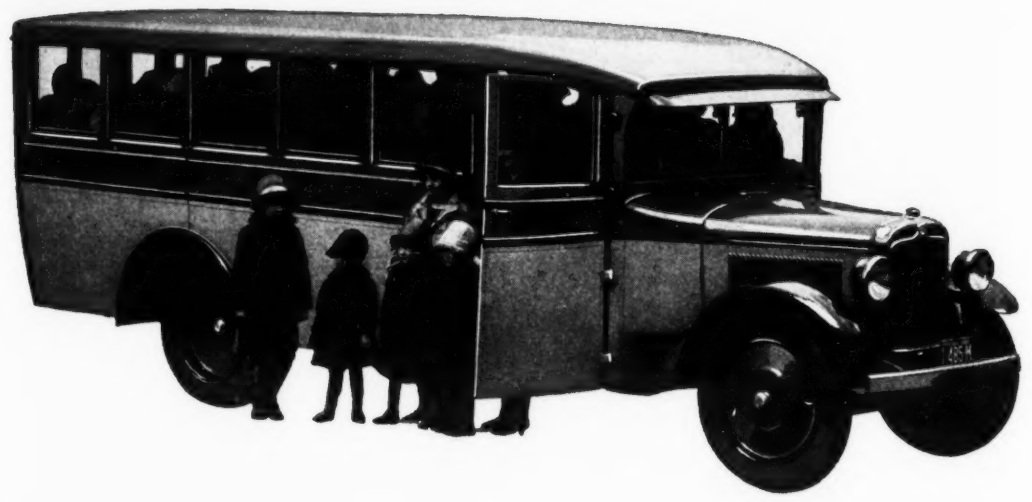
Although millions of dollars are being expended each year on school buildings, there are still many children who are attending on part time. Many pupils attend school in basement rooms and portables, while others are required to sit in poorly lighted and badly ventilated classrooms.

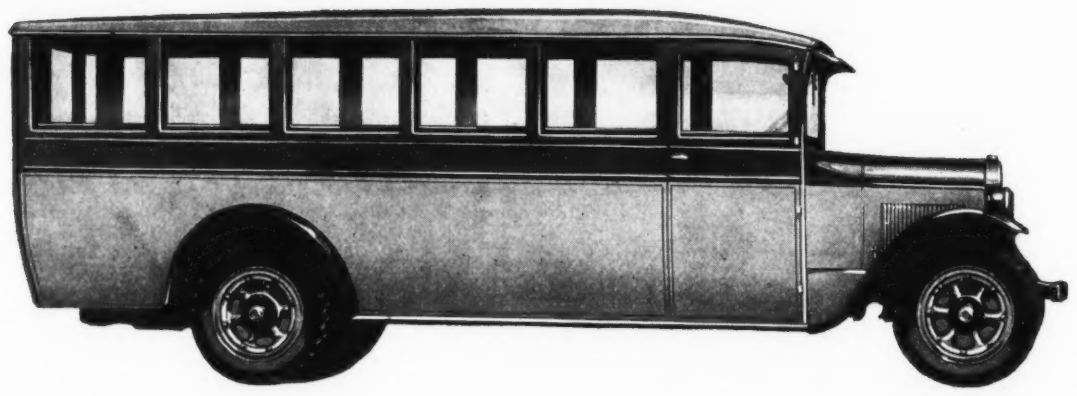
The demand for more school buildings has arisen not only because of a natural growth in population but because a larger proportion of pupils remain in school longer. The high-school enrollment has gone forward at such a rapid pace that few cities have been able to provide adequate accommodations for their secondary-school enrollment.

It is noted that the type of school buildings is improving. In many cities, the new elementary schools include gymnasiums, auditoriums, playgrounds, shops, and libraries, thus meeting the needs of the city child today.

Safe, comfortable

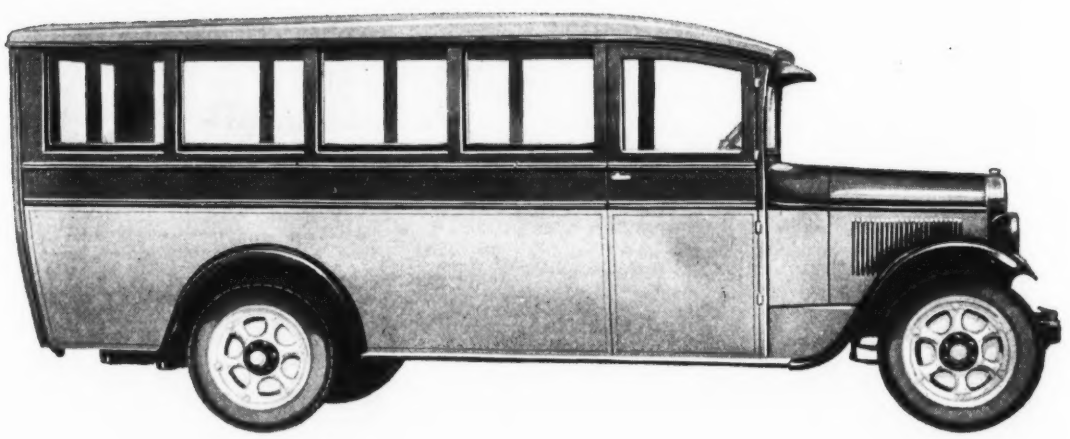
Two seating arrangements are available in this large school bus (shown at right) making it adaptable for large and small children. Seats run down the center and along both sides.





The intermediate size bus at the left has the conventional longitudinal seats with center aisle. Wheelbase is 165 inches.

The bus at right is on 140 inch wheelbase chassis—an ideal school bus where large numbers of children do not have to be carried.



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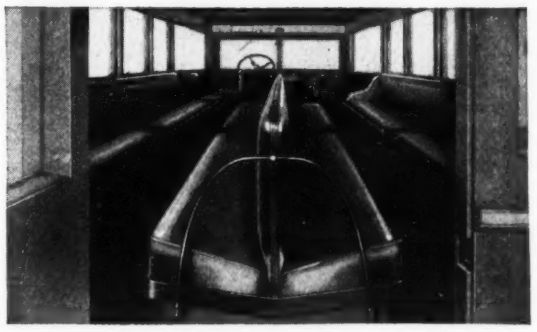
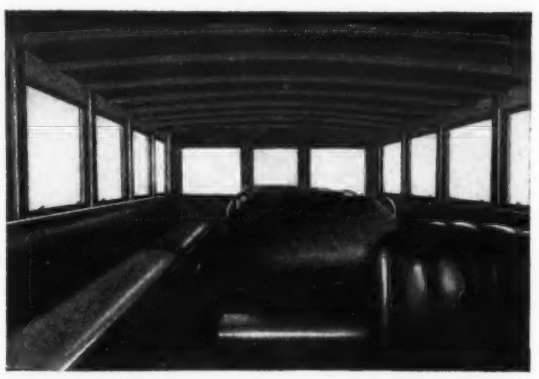


Optional arrangements of seats down the center of the large bus are available. Where large numbers of small children are carried longitudinal seats are arranged back to back (as above). For larger children cross seats are recommended (as below).



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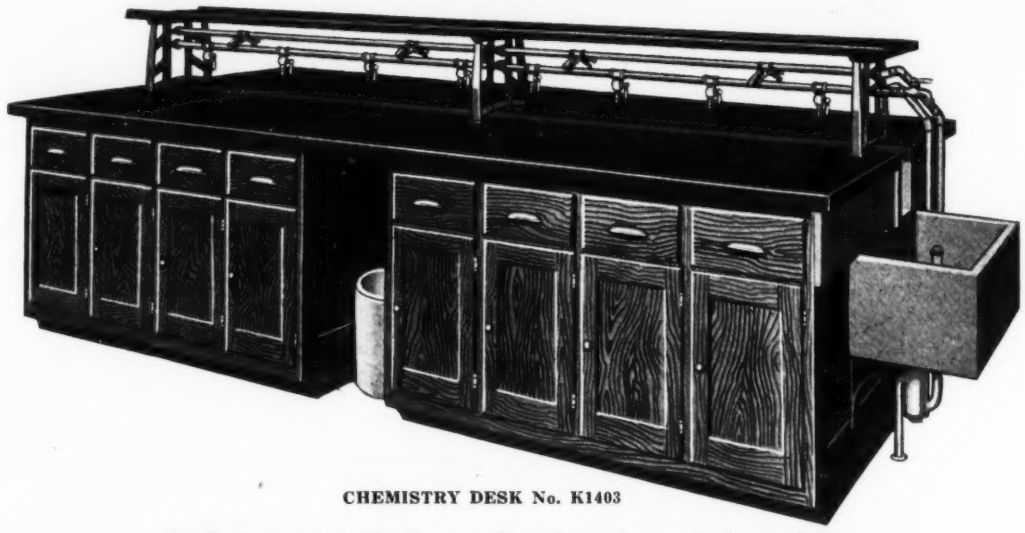

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SCHOOL FINANCE AND TAXATION

FINANCE AND TAXATION NOTES

—Boston, Mass. Business Manager A. M. Sullivan has issued a report showing that the total expenditures for the last four months of this year amounted to $6,020,289. This is an increase of $557,591 over a corresponding period a year ago. The expenditures for all items of expenditure under the control of the school board, totaled $4,627,560, which is an increase of $164,393 over those of a year ago.

The expenditures for the alteration and repair of school buildings, including furniture and fixtures, totaled $352,029, as against $277,223 expended for these purposes last year, an increase of $74,867. The expenditures for land, plans and construction of school buildings amounted to $1,040,633, which is an increase of $318,330.

—Duncan, Okla. The voters recently approved an extra ten-mill levy for school purposes for the coming year.

—Kalamazoo, Mich. Although the 1928-29 budget for the maintenance of the schools will be approximately one and a half million dollars, the voted tax will be nearly $2,000 less than that of last year, according to Mr. H. W. Anderson, business manager.

—The school board of Alpena, Mich., has adopted a budget of $184,133 for the school year 1928-29. The expenses of instruction amount to $118,773, while the expenses for the operation of the school plant will amount to $22,965.

—Davenport, Iowa. For the first time in eight years, the bonded indebtedness of the schools has dropped below the million-dollar mark with the retirement of $160,000 of the $430,000 maturing June 1 and July 1. For the fiscal year ending July 1, the board will have retired $171,000 of the district's bonded indebtedness, including $11,000 maturing late in 1927 and early in 1928.

—Seattle, Wash. In an effort to reduce the cost of education for taxpayers, the professional committee of the high-school teachers' league has directed its efforts toward the elimination of high-school failures. It is planned to study carefully the cause of each failure and to arrange some special supervision.

—Elyria, Ohio. The school board has adopted a salary budget of $316,075 for the school year 1928-29. The budget represents an increase of $26,350 over last year.

—Duluth, Minn. The school board has asked the city commissioners to turn over a balance of $350,000 of the school-board levy. It appears the city officials each year delay the turning over of the school money in order to collect the interest for the general fund of the city. Under the law, the school board should be the first to receive its revenues after the taxes are collected.

—New York, N. Y. Under the terms of the Dick-Rice law passed by the last legislature, it is expected that the appropriation of $33,723,734 this year will be increased to $42,000,000 in 1930. School officials place the amount the city will receive in state aid a year from now at $37,463,757, and in the following year at more than $42,000,000.

Under the new law, the increase of approximately $16,500,000 this year will be duplicated but spread over the next three years. This is due to the provision of the law which changes the basis of state grants from a fixed per-teacher capita to a fixed sum for a teacher for each 27 pupils in average daily attendance in elementary schools, and 22 pupils in the high schools.

—Muskegon, Mich. The school budget for the year 1928-29 has been fixed at $325,494, or $17,024 more than that of last year. The largest item in the budget is that for expenses of instruction, which is about $11,000 more than last year.

—South St. Paul, Minn. On May 15, the citizens approved a bond issue of $500,000 for building-construction purposes, to cover a period of three years. The new program will include the erection of a gymnasium and community-room auditorium, a ten-room elementary school, a school-municipal auditorium, and three additions to existing school buildings. The buildings will be erected from plans prepared by Architects Toltz, King, and Day, of St. Paul, Minn.

—Alliance, Ohio. The board of education has approved a recommendation of Supt. F. B. Stanton, providing that no married-women teachers be added to the teaching corps after this year. Teachers who will marry will automatically lose their positions.

(Concluded on Page 96)

SCHOOL-BOND SALES AND SCHOOLHOUSE-CONSTRUCTION CONTRACTS FOR 1925-1928

Month	1925			1926			1927			1928		
	School-Bond Sales[1]	CONTRACTS LET[2] Sq. Feet	Value	School-Bond Sales[1]	CONTRACTS LET[2] Sq. Feet	Value	School-Bond Sales[1]	CONTRACTS LET[2] Sq. Feet	Value	School-Bond Sales[1]	CONTRACTS LET[2] Sq. Feet	Value
Jan.....	$ 28,931,323	2,034,000	$ 13,595,000	$ 54,022,531	2,245,200	$ 13,346,200	$ 27,028,616	2,376,000	$ 17,012,500	$ 16,275,161	3,498,100	$ 23,369,400
Feb.....	30,761,773	3,322,000	17,772,000	49,014,450	3,114,200	20,721,500	18,501,650	3,009,800	22,045,400	20,952,450	3,157,400	18,650,500
March....	22,468,500	5,209,000	40,541,000	16,265,292	4,000,100	29,079,700	30,906,289	5,997,800	36,521,800	19,995,366	5,316,300	33,881,000
April.....	25,305,540	4,762,000	30,972,000	25,982,876	5,094,500	38,480,200	19,825,233	4,808,300	35,678,100	34,182,611	5,244,500	32,885,400
May.....	108,375,192	4,079,000	25,775,000	34,431,553	6,610,500	39,709,700	44,210,460	5,346,900	34,545,100	30,183,346	2,260,800	47,851,000
June.....	28,901,159	9,001,800	64,584,800	25,329,245	6,015,600	40,753,400	23,083,337	5,675,600	42,121,800	.....	.....	.....
July.....	24,196,675	7,644,500	57,672,000	28,918,050	6,067,900	42,015,800	23,635,536	5,466,300	36,433,600	.....	.....	.....
Aug.....	21,588,754	5,246,200	33,667,200	17,970,298	5,469,000	42,124,000	16,997,680	5,937,800	41,035,200	.....	.....	.....
Sept.....	25,655,944	4,744,100	35,217,300	12,874,224	4,865,100	34,531,600	30,869,480	4,263,700	29,243,700	.....	.....	.....
Oct.....	26,313,830	3,936,800	28,192,000	19,991,266	3,516,600	23,556,700	26,053,600	4,171,200	30,169,600	.....	.....	.....
Nov.....	24,673,250	3,156,700	22,048,100	17,395,423	4,711,500	34,571,800	26,898,416	4,684,900	31,741,300	.....	.....	.....
Dec.....	30,098,325	3,407,400	31,645,500	30,605,382	2,854,500	22,177,600	28,168,175	3,736,200	33,247,600	.....	.....	.....
Totals....	$397,270,256	58,799,900	$423,203,700	$332,800,590	54,564,700	$381,078,200	$316,178,472	55,474,500	$379,795,700	$121,588,928	24,477,100	$156,637,300

[1]Advertised School-Bond Sales.
[2]Dodge Figures.

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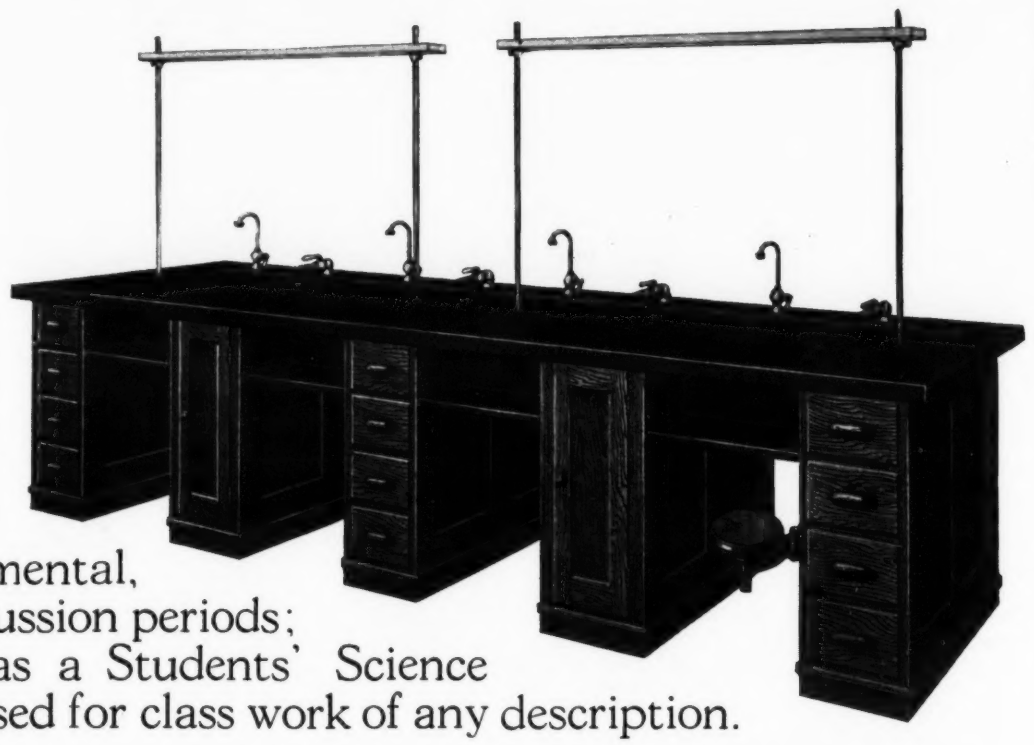

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(Concluded from Page 94)

—Springfield, Mo. The school board has adopted a tax rate of $1.40, in order to meet the estimated expenses of $606,675 for the school year 1928-29.

—Efficiency in planning school budgets was the topic for discussion at the recent meeting of the excise boards of Oklahoma, which held a three-day meeting at Oklahoma City. Mr. John Stedman, deputy state examiner and inspector, gave a talk on "Uniform Accounting for Schools," in which he pointed out that such a system would aid materially in keeping the tax rates of the various communities on a stable footing.

—Newton, Pa. The school board has adopted a tax rate of 12.5 mills for general school purposes, 2.5 mills for bonds, and $5 per capita. This is an increase of three mills in the property tax and $2 per capita.

—Governor Fuller of Massachusetts has signed a bill, permittting the city of Cambridge to borrow $2,000,000 for the operation of a school-building program. Included in the program are the new Roberts School and the additions at the Rindge School.

—The Manlius School at Syracuse, N. Y., has brought action in court to avoid the payment of $5,000 in taxes assessed by the town of Manlius. The board of assessors of the town took the position that the school did not come under the law of educational institutions because it is a private institution conducted for profit by individuals.

In a long session, an attempt was made to show that the decision of the referee should not be confirmed on the basis that the head of the school had turned over the property of a lifetime to the school and that the school was not conducted for profit. It was shown that the head of the school gave up practically $300,000 and that a salary of $12,000 a year, together with bonds due fifty years hence, was all that he retained.

—Lowell, Mass. The school board will go into court to establish its right to determine its own budget, without alteration by the city officials. The board, through its attorney, has asked for a mandamus to compel Mayor Corbett and the city council to pass a budget of $1,461,533 for the school year 1928-29. It appears that the city council and the finance commission had early in the year reduced the school budget by $66,000, over the protests of the school board.

—A special committee appointed by Mayor Thompson will begin a study of the Chicago school finances, with a view of eliminating the $2,000,000 deficit facing the 1928 budget. The committee is made up of local business men, headed by Mr. George F. Goetz.

—Ellwood City, Pa. The school board has adopted a tax rate of 32 mills.

—West Warwick, R. I. The school board has requested an appropriation of $132,631 for school purposes during the year 1928-29.

—The board of education of Norwalk, Conn., has adopted a budget calling for an expenditure of $485,341 during the school year 1928-29.

—Indianapolis, Ind. Mr. Albert Walsman, business director of the schools, has reported that the public schools will have less money this year for operating expenses, aside from teachers' salaries. Mr. Walsman questioned the economy of forcing the school board to conduct its building program by bond issues rather than by tax levies. He pointed out that in 1919-20, with a special levy of only .24, the amount left for operation of the schools was $1,258,012, due to the fact that the retirement of bonds, interest, and sinking fund, required only $166,417. In 1922-23, when the amount left for the conduct of the schools was only $422,865, the special levy was only .142.

This year, with a special levy of .311, the amount left for the conduct of the schools, other than teachers salaries, amounts to $1,016,486.

—Dr. Fletcher Harper Swift of the University of California, who has been granted a year's leave of absence for study and travel in Europe, will make a study of the manner in which European elementary schools are financed. He will study the manner in which school taxes are levied and the method for providing and distributing school funds.

—Quakertown, Pa. Taxpayers of the community will pay an increase of 4 mills in the school tax this year, in order to meet the cost of a new school. The tax rate, which is an advance from 15 to 19 mills, was fixed after a study of the financial situation.

—The school board of Westerly, R. I., purchased a $35,000 tract of land for a new schoolhouse. The board will issue bonds in order to pay for the purchase. The owners of the land have agreed to purchase $5,500 worth of bonds.

—"The 2,000 school boards of the state of Washington transacted $25,000,000 worth of business last year," said Mrs. Josephine Corliss Preston, state superintendent, at a public gathering recently. "They are responsible for $750,000,000 worth of property, buildings, and equipment. School boards must know their work, their powers, in order to administer efficiently the affairs of their respective districts."

—"Those who hold the purse strings determine how the school business shall be run," says the Leader of Lowell, Mass. "The argument is that if the city council holds the purse strings, it will be in a position to dictate the management of school affairs, the election of teachers and janitors, and that the members of the school committee would be little more than figureheads. In the last analysis it is the people who hold the purse strings."

—The school district No. 39 of Osage county, Okla., is confronted with a deficit of $11,037, as shown by an audit. This is a wealthy district from the standpoint of valuation, according to the audit report. It appears that money has been spent lavishly, with nothing omitted, the audit report declared after telling of the incompleteness of the books and records. Claims were often presented and paid without being properly executed and itemized, as required by law, according to the report made to Rogers. Expenditures included $2,000 for a piano, $700 for a water well, and $2,300 for a storm cellar. More than $3,000 worth of playground equipment was purchased without competitive bids, the report indicated.

—Supt. F. M. Longanecker of Racine, Wis., in a brief report, makes a comparison of school costs and tax levies in 21 cities in Wisconsin with a population of more than 10,000. The items considered are real and personal property, ratio of true to assessed valuation, total tax rate, general school tax, vocational-school tax rate, tax rate covering school bonds and interest, total tax rate for school purposes, school census, average daily attendance, and per-capita school costs on average daily attendance.

—Boston, Mass. At a recent meeting of the school board, an appropriation of $2,571,500 was made for the purpose of meeting the current expenses of the schools, and to provide for other school purposes specified during the financial year, January, 1928, to December, 1928. The present appropriation is in addition to that made at the April meeting.

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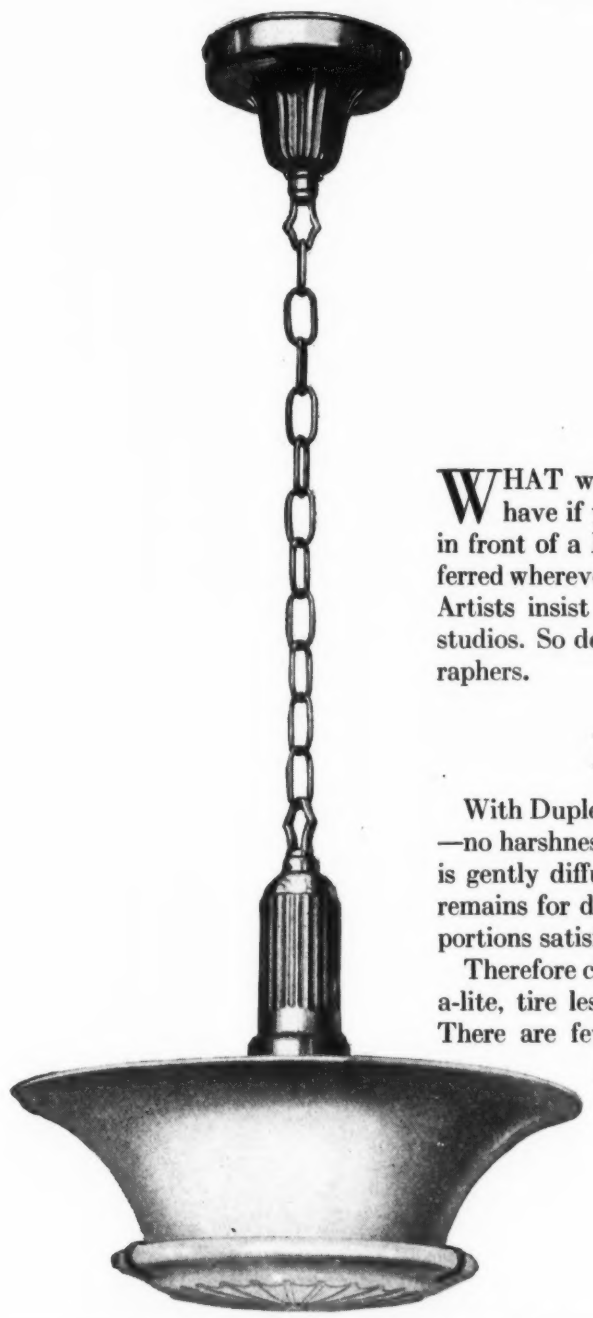

D 261

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Polytechnic Institute, Brooklyn, N. Y.
University of Wisconsin, Madison, Wis.
John Crerar Library, Chicago
Hershey High School, Hershey, Pa.
La Salle Extension University, Chicago
West Hartford Schools, West Hartford, Conn.
New York University, New York City
Southington Schools, Southington, Conn.
Alhambra High School, Alhambra, Calif.
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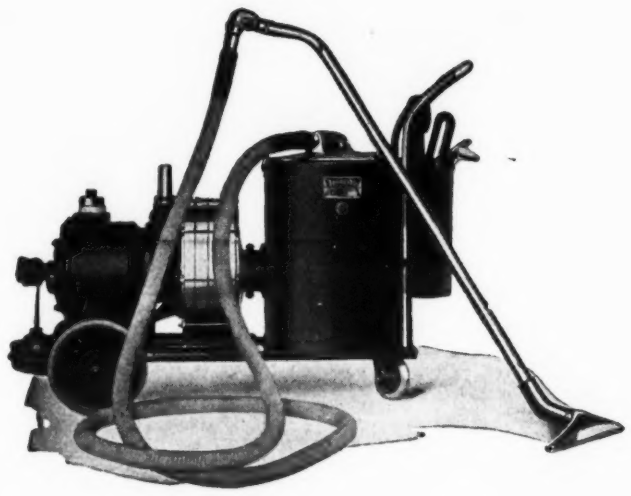

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CHICAGO CORRESPONDENCE

Chicago has a new school-board president—Mr. H. Wallace Caldwell. Mr. Caldwell succeeded Mr. J. Lewis Coath, president from May 1, 1927 to May 1, 1928, during whose régime occurred the McAndrew trial. Mr. Coath has another year to serve as trustee. The new president is the youngest member of the board; he is thirty-three years old. The newspapers have indicated that Mr. Caldwell was drafted into the position following a spirited "revolt" which he led against the incumbent. During the latter part of Mr. Coath's incumbency, a contract for $1,633,000 worth of work on a new high school was submitted by a firm in which Mr. Coath's son was an officer. This firm's bid had been approved by two school-board committees and was up for approval by the full board itself. Mr. Caldwell unexpectedly asked to have action delayed and then when the matter came up for a vote, a majority of the trustees voted with him against approval, rejecting the bid, and calling for new bids.

Before the voting started, Mr. Caldwell arose and made a statement, "Inasmuch as the board of education now has a rule which prevents teachers from selling their own books to the Chicago schools for profit, it seems that this matter is in the same category. I feel that it is very unethical for the board to award a contract to this firm because of the fact that one of the members of the board is interested in it through a family connection." Mr. Caldwell then asked for a roll-call vote. The first trustee to vote was Walter Brandenburg. Mr. Brandenburg joined with Mr. Caldwell, voting "No" and explaining his vote as follows, "If this bid is awarded to the ———— company we will lead the public to believe that we are handing out gilt-edge contracts on golden platters to the members of the board and their families." (Mr. Brandenburg was later elected vice-president.) A majority vote having been piled up against the bid, those favoring it changed their vote, making it a unanimous rejection. One of the opposition newspapers immediately declared this event was an "election echo." However, Mr. Caldwell had started his "revolt" prior to the primary election.

Mr. Caldwell has been received very well by the Chicago newspapers, even by those most severe in their criticism of the administration. One newspaper lauds him for his inaugural statement, "The interests of the board itself, of the teaching force, or any other agency involved must be secondary to the welfare of the children." The newspaper then states editorially, "This announcement of purpose and intention will gratify the community, which has been humiliated and pained by various actions and policies of the retiring president, who naively says that officially he 'had but one desire, to please the mayor.' Now he pays the penalty of his subserviency. His régime is over."

The new president almost immediately fell heir to a lot of trouble not of his own brewing. He seems to have weathered it without loss of prestige, however. Shortly before his retirement, the preceding board president had ordered the 300 elementary schools closed in batches of 15 to 20 schools a day, in order that the pupils might attend Riverview amusement park as guests of the mayor. The former president had addressed a letter to the schools announcing the plan. This excursion was to be one of three free entertainments, the last two of which would occur during the summer vacation. On the allotted day, pupils were to be admitted free to the park and receive tickets good for certain of the concessions. On leaving the park they would be given some patriotic literature prepared by the mayor. The recreational, educational, and patriotic features of the matter were emphasized by the board president.

CHICAGO'S NEW SCHOOL-BOARD PRESIDENT.

President H. W. Caldwell of the school board, left, Mrs. Caldwell, and J. Lewis Coath, retiring president. Mr. Caldwell, who is 33, and the youngest member of the school board, was an aviator in the war.

(Int. Newsreel Photo.)

A storm of protest was raised, led by the newspapers hostile to the administration. Newspaper reporters visited the park and then printed stories to the effect that obscene pictures were being shown to thousands of children in the penny arcade, that gambling and lottery propositions were being patronized by the children, and that some of the concession features were coarse and revolting.

Protests were showered on the school-board members, on the educational department, and on the mayor. The head of the Juvenile Protective Association, the president of the Women's City Club, and the vice-president of the Illinois Parent-Teachers' Association led the fight. Altogether, the newspapers reported 20 local Parent-Teachers' Associations which passed resolutions scoring the undertaking. The type of charges made were as follows: "not educational," "kindergarten politics," "taxpayers hit" (statement was made that the cost of these outings amounted to $183,000 in unearned teachers, engineers, janitors, firemen, and clerk salaries).

Although not the author of the plan which closed the schools for the outings, the new board president, Mr. Caldwell, took office while they were going on (it consumed about one month's time for the 300 schools to participate) and was immediately appealed to in order to have his predecessor's undertaking stopped. Mr. Caldwell visited the Riverview Park, pointed out the wholesome type of recreational features unmentioned by the newspapers, and then issued a statement about as follows: "If we are to prevent the children from going to Riverview Park, it seems to me we should also prevent them from attending movies and circuses. It isn't long until the close of school, and while the board has taken no official action against the practice we have decided to keep our hands off the situation."

(Concluded on Page 100)

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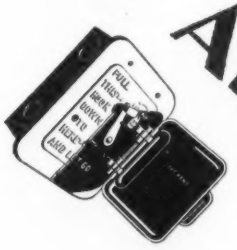

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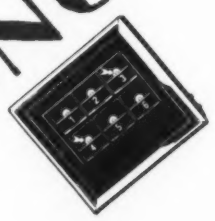

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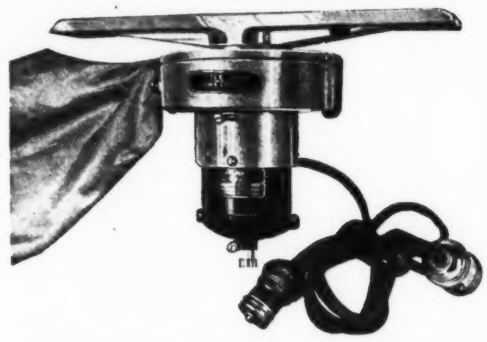

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(Concluded from Page 98)

The vastness of Chicago's educational organization can be seen indirectly in some recently released statistics on high-school enrollment. One high school, the Carl Schurz, now has a pupil enrollment of 7,700 and additions are being prepared so that this school will open in September with over 9,000. It is already the largest high school in the world. Crane has 6,205 and several others have over 4,000.

A total of 28,229 pupils are scheduled to graduate from Chicago public schools on June 21 and 22. Of these, 16,500 are elementary pupils, 3,006 are junior-high-school pupils, 5,308 are four-year high-school pupils, and the rest are finishing special schools.

A coroner's jury placed the blame for the death of two school boys killed by a falling brick wall at the boundary of the Plamondon school playground, on the board of education. The verdict states, "Had the board of education taken the proper steps to repair this wall, or remove it, the accident would never have occurred." It was developed that seven months had elapsed between the time the unsafe condition of the wall was reported by the principal of the school and the date of the disaster.

WASHINGTON CORRESPONDENCE

By A. C. Monahan, Formerly U. S. Bureau of Education

Business Management Department Proposed for Washington Schools

Three prominent members of Congress interested in district affairs recently met with the board of education of the District of Columbia, asking the board to consider two proposals and report its recommendations next fall when Congress meets. These three men, who have much to say about local appropriations, were Senator Phipps (Republican), of Colorado, chairman of the District subcommittee of the Senate appropriations committee; Representative Simmons (Republican), of Nebraska, chairman of the District subcommittee of the House appropriations committee, and Representative Holaday (Republican), of Illinois, vice-chairman of the latter subcommittee.

They suggest that the teaching and business ends of the school system be divorced. If this were done, they said, it would relieve Dr. Frank Ballou, the superintendent, of many business worries and permit him to devote more of his time to purely pedagogic tasks.

They recommend a high-grade business manager to take over everything of a business nature, except teachers' salaries, which would be left to Dr. Ballou. It would be the expert's job to supervise the expenditures for construction, for supplies, and for other school needs. The amount of money which will be spent in the next fiscal year for the schools will be $12,000,000.

Representative Simmons suggested lifting the bars against outside teachers in elementary schools. At present, there is a clause in the law which provides that graduates of the Wilson Normal School must be appointed as teachers in the elementary grades before outsiders may be secured. As the number of graduates each year is much greater than the number of vacancies, in practice it means that only graduates of the district normal school are given positions.

Congress and the District of Columbia Schools

Supt. Frank W. Ballou of the schools of the District of Columbia issued a statement upon the adjournment of Congress setting forth the aid given the school system for the coming year by Congress. The following is an abstract:

"The appropriations bill for the fiscal year ending June 30, 1929, which has just been signed by President Coolidge, is most satisfactory from the standpoint of the public schools. No preceding appropriation bill has ever made such adequate provision for the public schools.

Fifty additional teachers are provided in the bill: Ten for the elementary schools; 27 in the lower-salary class of the junior high schools, and 13 in the higher-salary class of the junior high schools.

It is admitted that there will be need of more than ten teachers for the elementary schools. The additional teachers needed are to be secured by reducing the number of special or itinerant teachers and transferring teachers or salaries to regular elementary classroom teachers. It is estimated that twelve or fifteen such teachers may be transferred during the next school year.

The appropriation for contingent expenses is increased from $100,000 to $155,000. Of this sum $30,000 is for the repair and replacement of window shades, $50,000 for the replacement of worn-out furniture, and $20,000 for the replacement of typewriters used in instruction.

The appropriations bill for 1929 authorizes the use of $100,000 of unexpended balances of appropriations for buildings and grounds heretofore made, for the improvement of grounds surrounding public-school buildings.

Buildings and Grounds

Appropriations are provided for 90 classrooms for elementary-school purposes and for 325 high-school pupils, in addition to the new McKinley High School, which will accommodate approximately 1,800 pupils.

Obviously, this bill provides for real progress in the development of the school system. This progress would necessarily have been impossible if Congress had failed to pass an appropriations bill.

Research Department in Washington Public-School System

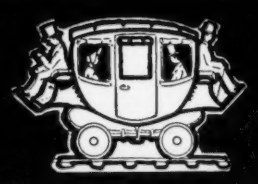
The work of the research departments in the public-school system of Washington, which in fact is an organization for the mental testing of children, is defined in a recent circular issued by Dr. Frank W. Ballou, superintendent of schools.

Educational research in Washington is systematically organized and carried on under the supervision of two assistant superintendents. Testing of children has always been carried on at the request of building principals or supervising principals. No tests have been organized and carried on in any schools without the approval of the responsible administrative or supervisory officer.

Requests for testing have now become so general throughout the school system that the resources of the departments of educational research are insufficient to carry on this work and other work of equal importance. Many problems relating to methods of teaching, organization of children, and general deministration should be the subject of study by the research departments. Standard tests measuring educational progress of children, rather than general intelligence, should receive more attention than can be given them under present circumstances.

During the period of introduction of intelligence tests and standardized achievement tests into the schools of Washington, much of the time of the officers in charge of educational research has been devoted to personal conferences with teachers, principals, and supervising principals. These conferences have always been held at the request of such teachers and principals.

(Concluded on Page 103)



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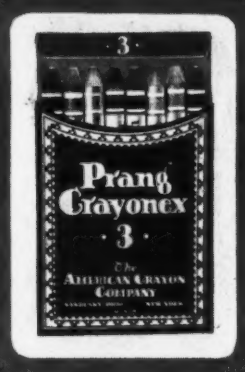

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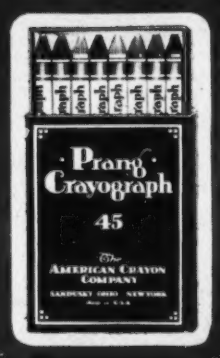

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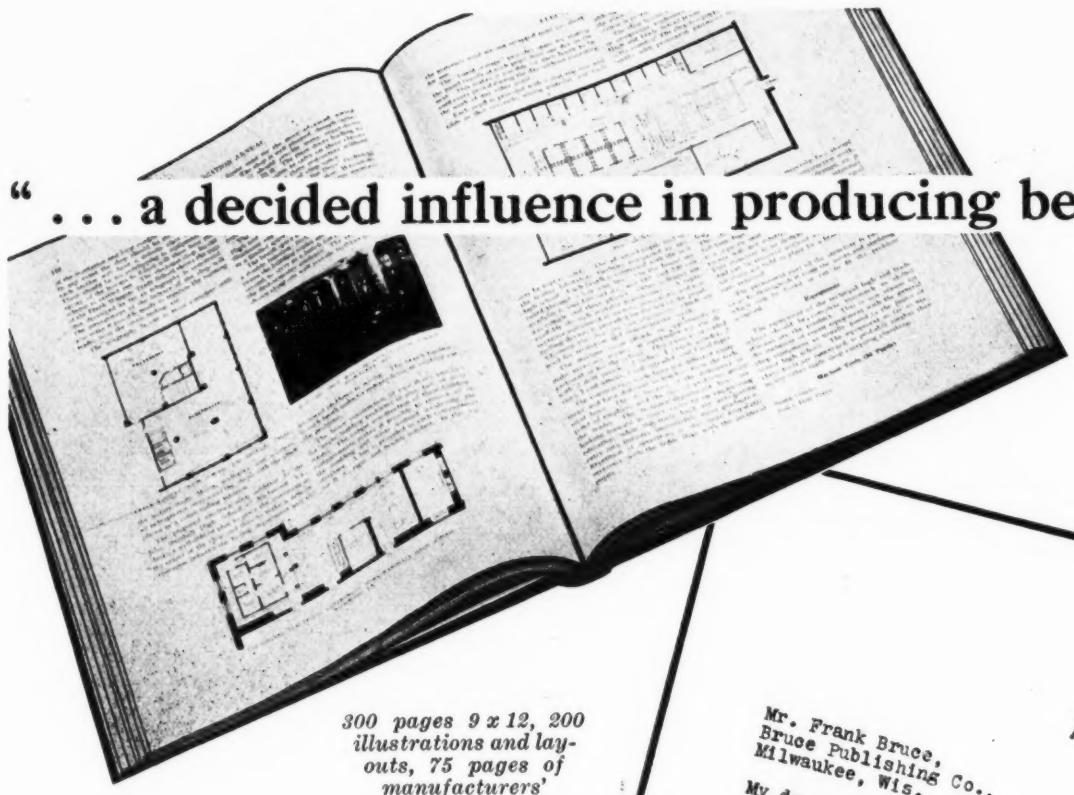

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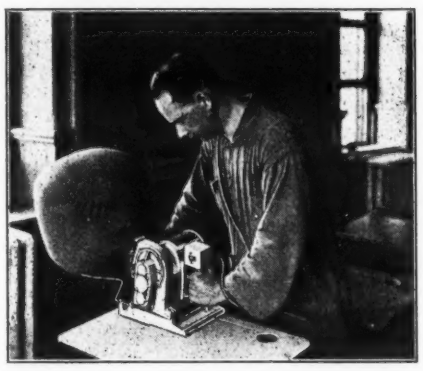

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(Concluded from Page 100)

These have been done in order that field officers might familiarize themselves with the nature of the tests and the meaning of the results. In addition to this, conferences with principals of schools have been primarily for the purpose of considering how the results of the tests may be most advantageously utilized in the organization of pupils into more homogeneous classes.

In the consideration of educational research it should be borne in mind at all times that the testing of children is not an end in itself, but is a means of securing competent information about the children, to the end that their instruction may be made more efficient.

From the general review of the situation, it would appear that the time has arrived when the research departments would be justified in giving less attention to conferences with individual teachers and school officers and more attention to providing such officers with additional results of research work. This can be done on the assumption that supervising principals and principals of elementary schools have become sufficiently familiar with the testing and the results of testing, as to be able to use those results effectively in the organization of their respective schools.

To carry out the general administrative policy indicated above will mean that the functions of the assistant superintendents in charge of educational research will be substantially as follows:

1. That it shall be their function within their respective schools to organize and conduct such examinations as they are requested to conduct; tabulate the results of such tests, and report those results to the building principals or the supervising principals.

2. That the assistant superintendents in charge of educational research shall advise with building principals or supervising principals when requested to do so, as to the meaning of the results of the tests and their significance in the organization of classes.

3. That the utilization of supplementary elementary-school teachers or regular classroom teachers by those in charge of educational research in the giving of tests or in the tabulation of results shall be only to the extent that such participation on the part of teachers will be directly beneficial to said teachers in their teaching assignments.

4. That educational research in Washington shall be carried on in general as a fact-finding process, and that the assistant superintendents in charge of educational research shall not assume any responsibility or be held responsible for the utilization of such testing results in the organization, administration, and supervision of the schools.

5. That the assistant superintendents in charge of educational research will consider with the superintendent and the other assistant superintendents the formulation of a well-balanced plan for the research departments, covering the giving of intelligence tests and standardized achievement tests, and the study of administrative problems.

HYGIENE AND SANITATION

—New York, N. Y. Plans have been formulated by the department of health, in cooperation with school officials, for an annual inspection by dental hygienists of the teeth of children in public and private schools. In order to determine the needs, a survey of children in 114 schools was conducted by a staff of 19 dentists and 25 dental hygienists. It is expected that the 110 dental clinics not used at present will be put to use.

During the period from March 24 to May 5, the staff examined pupils in 45 schools and recommended treatment for 10,025 boys and girls. Of this number, the dentists found 2,834 with defective teeth urgently in need of the care of a dentist.

—Medical attention was given to 95 children in Racine, Wis., last year through a fund of $700 contributed for such work by children in the public schools at Thanksgiving time.

—The schoolhouse should be converted into a community center and made an agency to provide recreation facilities for all people, old and young, according to the United States Bureau of Education.

The Bureau points out that local boards of education are more and more making provision for the supervision of recreational and social activities. School control of recreational facilities, in the opinion of the Bureau, tends toward municipal economy. The schoolhouses are usually the neighborhood centers from a geographical standpoint, and by a small expenditure of money, they may be made adaptable for uses other than purely educational. New schools should be planned for a wider use, thus saving future expenditures for alterations. If the school grounds are too small, it is better to enlarge them than to purchase new sites for playground purposes.

The two rooms in a school which contribute most to the success of a community center are the gymnasium and auditorium. Where both are impossible because of the cost, a combination gymnasium-auditorium is recommended.

—A resolution requiring medical examination of every child aged thirteen years in the schools of New York City has been recommended to the board of education by the board of superintendents. It is proposed that every means be employed to see that physical defects are disclosed and removed.

—The Philadelphia school board will care for physically and mentally handicapped children and has authorized two new buildings for that purpose. One of the buildings will provide for children suffering from nutritional defects, tuberculosis, and orthopedic troubles, and in the other, training will be given to mentally retarded children.

—A dental survey was recently conducted at Marion, Ill., under the direction of Dr. M. L. Baker and Dr. J. W. Ferguson. The survey covered a total of 1,867 students, of whom 381, or 20.4 per cent showed evidence of mouth cleanliness. Of the total, 1,195, or 64 per cent, had fair teeth; 307, or 16.4 per cent, had poor teeth; 1,644, or 86 per cent, had healthy gums, and 205, or 11 per cent, had unhealthy gums.

There were 459 pupils with irregular teeth, 33 with permanent teeth missing, and 471 with cavities in permanent teeth. There were 24 extractions in the case of permanent teeth and 84 in temporary teeth.

—With the granting of contributions for the purchase of playland to Amsterdam, N. Y., and Manchester, Ga., the contributions of the Harmon Foundation for playfields in 1927 was brought to a close. Twenty-three new playfields became affiliated with the foundation in the permanent playground movement and 120.25 acres of land were dedicated in perpetuity to recreational purposes.

A total of 103 Harmon fields have been located in all but fourteen states of the Union. The Foundation has made a total contribution of $44,000 for the purchase of land valued at $106,410 which, because of interest in the movement on the part of the owners, sold for $50,000.

In some cases, the communities have been given assistance by the Foundation in playland purchase, through various means. In towns which were not in position to raise money locally, yet wished a site, a "purchase and lease plan" was employed. Under this plan, the land was bought by the Foundation and rented without charge to the community, with option given for purchase at cost at the expiration of the lease.

Rules and Regulations Concerning Corporal Punishment

Beatrice C. Holt

An examination of 100 sets of rules and regulations of city school systems reveals the fact that in 28 cities corporal punishment is permitted in extreme cases; in 2, it is prohibited; in 24, it is permitted—without comment; and the remaining 46 make no mention of the subject, or else there is a ruling to the effect that pupils are suspended for "misconduct." Since the state of New Jersey has a law prohibiting corporal punishment, it may be assumed that all cities in this state also comply with that law.

The following table gives the data for each individual state from which the above was compiled:

Cities whose Rules and Regulations Contain Reference to Corporal Punishment	Dates of Rules and Regulations	Permitted in Extreme Cases	Prohibited	Permitted
California:				
Los Angeles	1926	Yes	....	....
San Diego	1926–27	Yes	....	....
Colorado:				
Colorado Springs	1927	....	....	Yes
Connecticut:				
Meriden	1923	Yes	....	....
New Britain	1924	Yes	....	....
Washington, D. C.	....	....	Yes	....
Georgia:				
Columbus	1923	....	....	Yes
Rome	1925	....	....	Yes
Illinois:				
Chicago	1922	....	Yes	....
Quincy	1919	Yes	....	....
Rock Island	1926	Yes	....	....
Indiana:				
Evansville	1927	....	....	Yes
Fort Wayne	1918–19	....	....	Yes
Kansas:				
Kansas City	1917	....	....	Yes
Kentucky:				
Owensboro	1922	Yes	....	....
Maine:				
Auburn	1919	Yes	....	....
Portland	1912	....	....	Yes
Massachusetts:				
Arlington	1925	Yes	....	....
Belmont	1927	Yes	....	....
Boston	1927	Yes	....	....
Brookline	1926	Yes	....	....
Greenfield	1924	Yes	....	....
Lynn	1926	Yes	....	....
Methuen	1925	Yes	....	....
Newton	1925	Yes	....	....
Somerville	1921	Yes	....	....
Taunton	1926	Yes	....	....
Winchester	1926	Yes	....	....
Worcester	1923	Yes	....	....
Michigan:				
Saginaw, E. S.	1921	....	....	Yes
Mississippi:				
Pascagoula	1921	....	....	Yes
Missouri:				
Joplin	1924	Yes	....	....
St. Joseph	1918	....	....	Yes
Nebraska:				
Omaha	1923	....	....	Yes
North Carolina:				
Charlotte	1925–26	....	....	Yes
Ohio:				
Akron	1925	Yes	....	....
Columbus	1922	....	....	Yes
East Youngstown	1922	....	....	Yes
Toledo	(Undated)	Yes	....	....
Oklahoma:				
Guthrie	1920	Yes	....	....
Pennsylvania:				
Harrisburg	1918	....	....	Yes
Lancaster	1923	....	....	Yes
Wilkes-Barre	1926	....	....	Yes
Rhode Island:				
Cranston	1922	....	....	Yes
Providence	1926	....	....	Yes
Tennessee:				
Nashville	1923	....	....	Yes
Texas:				
Beaumont	1927	....	....	Yes
Galveston	1925	....	....	Yes
Sherman	1927–28	....	....	Yes
Utah:				
Logan	(Undated)	Yes	....	....
Virginia:				
Richmond	1927	Yes	....	....
Winchester[1]	....	....	....	....
Washington:				
Seattle	1919	Yes	....	....
Spokane	1927	Yes	....	....
Wisconsin:				
Oshkosh	1921	....	....	Yes

[1]Teachers may not use corporal punishment under any circumstances except in self-defense against attack by a pupil.

The rules and regulations of most cities require that corporal punishment shall be inflicted by the teacher or by the principal and in the presence of some adult, and in some cities parents must be consulted before the punishment is administered. There are also regulations as to the kind of punishment that may be allowed or disallowed.

Typical Rules

The following rules and regulations concerning corporal punishment are typical of those of many school systems:

Akron, Ohio (Rules and Regulations, 1925). The following modes of punishment are regarded as unobjectionable: Reproof kindly and properly administered in private, if necessary, according to the nature of the offense, deprivation of privileges, as recesses, etc., restraint; and only when all other means fail, corporal punishment may be inflicted by or in the presence of the principal or some other person and not in the presence of the school.

The following modes of punishment are deemed improper: Contemptuous language, reproof or other punishment administered in passion; the imposition of lessons as a penalty; and slapping of the face or other corporal inflictions having the nature of personal indignity, or attended with prolonged torture, or violating the laws of health. Punishments are to be inflicted by the pupil's teacher, except in special cases, in which the principal is to be the judge.

Boston, Mass. (1927). The confinement of pupils in a closet or wardrobe, and the use on the part of a teacher of sarcastic or discourteous language, is forbidden.

No physical restraint of any kind shall be used in a kindergarten.

CORNELIA S. ADAIR,
President of the National Education Association, who is presiding over the annual convention at Minneapolis, July 1-6.

Corporal punishment shall be restricted to boys in day elementary, day intermediate, and disciplinary schools; shall be confined to blows on the hand with a rattan and in the presence of a competent witness; and shall not be inflicted in sight of other pupils. It shall be resorted to only in extreme cases and after the nature of offense has been fully explained to the offending pupil.

Cases of corporal punishment shall be reported by each teacher daily, in writing, to the principal of the district; . . . shall be reported by the respective principals monthly, in writing, to the superintendent.

As a Last Resort

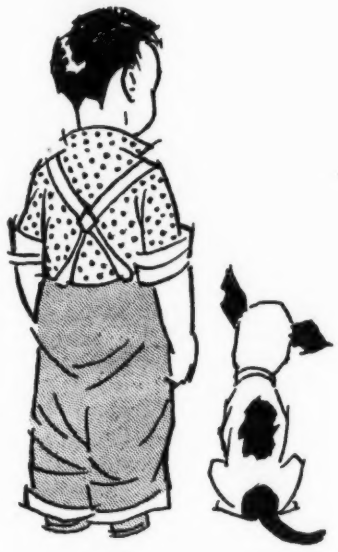
Los Angeles, Calif. (1926). If corporal punishment . . . is administered in any case, it shall be only after milder measures have failed, and after the nature of the offense has been fully explained to the offending pupil. In administering it, a switch or light strap shall be used, and only in such manner as not to inflict lasting marks of any kind. If administered by a teacher, it shall be in the presence of the principal; and if by the principal in the presence of some witness.

Teachers shall under no circumstances inflict punishment which might injure the physical well-being of the pupil, such as striking him on the head, slapping his face, boxing or pulling his ears, or severely shaking him. . . .

Detention of pupils after school hours as an ordinary means of punishment shall be avoided.

Richmond, Va. (1927). Corporal punishment shall be resorted to only in extreme cases, when other means fail to secure obedience, and shall be applied only by principals and in the presence of a teacher as witness. A written report of all corporal punishment shall at once be filed with the superintendent.

Spokane, Wash. (1927). The corporal punishment of pupils should be resorted to only when the teacher has exhausted every other resource for securing proper behavior. It shall never be inflicted by the teacher except in cases of flagrant offenses and then only after consultation with and approval of the principal. When such punishment has been decided upon, either the principal or the teacher may inflict the punishment, but always in the presence of an adult witness. Striking a child on the head, or slapping his face, striking his hands with a ruler, boxing his ears, and similar means of inflicting physical pain are positively forbidden.



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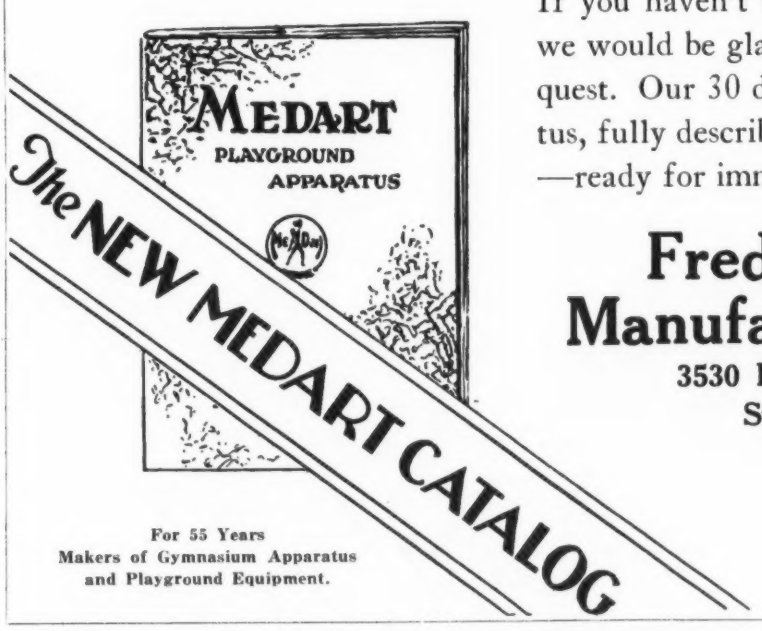
NOW with the playground in full action, is there enough fun to go around? Aren't there some of the youngsters who can't play because there isn't enough equipment for them all?

Just another piece or two of apparatus would provide fun for them all and give every little fellow a chance to play.

This additional equipment can be had right away—another swing, another slide—there are 30 varieties of Medart apparatus that we can ship immediately.

If you haven't the new Medart Catalog we would be glad to send it to you on request. Our 30 different pieces of apparatus, fully described, priced and illustrated—ready for immediate shipment.



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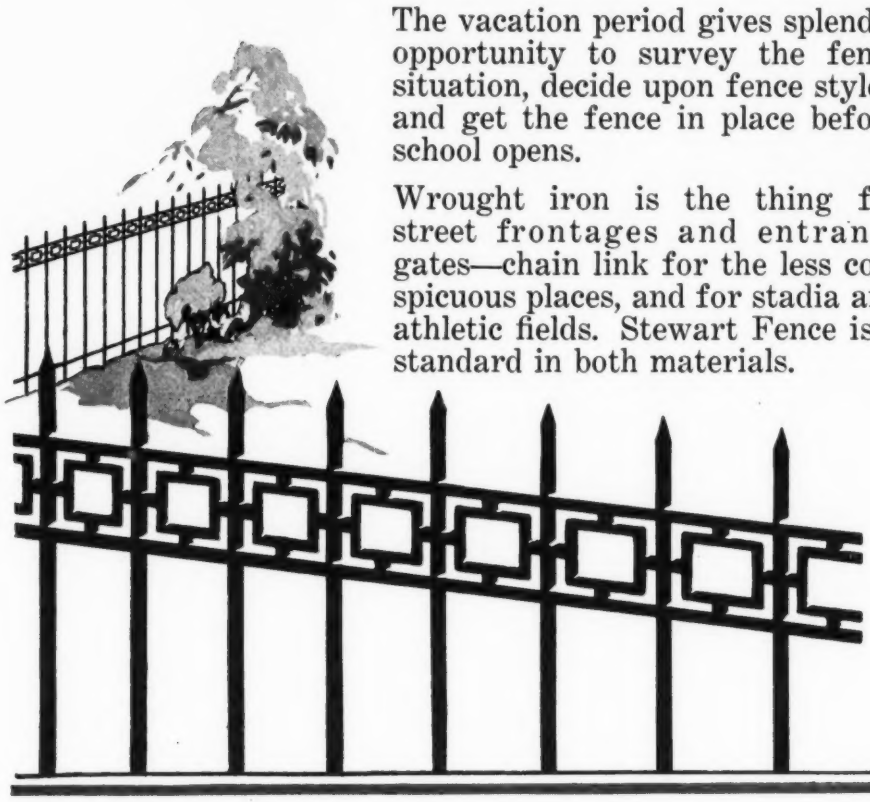

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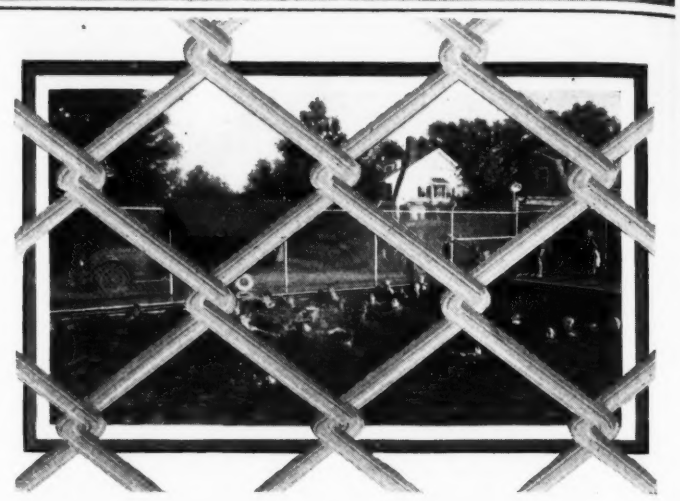

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TEACHERS' SALARIES

TEACHERS' SALARY REVISIONS IN 1927-28

The research division of the National Education Association has reported the results of a study of salaries of school employees in cities over 100,000 in population for the school year 1926-27.

The report shows the results of an inquiry sent to 59 cities over 100,000 in population, to which 55 replies were received. Of these, 35 cities, or 64 per cent, reported the same salary schedule for 1927-28, and 19 cities, or 35 per cent, reported a change. One city reported that the board of education is considering a revision of the present salary schedule.

In twelve cities the maximum amount for elementary teachers was raised. In two cases the increase was given to teachers holding degrees, and in one to teachers assigned as senior teachers. In the junior high schools, eight cities reported increases in the maximum salary of teachers. In the senior high schools, five cities reported increases in the maximum salary. In one city there is a single-salary schedule, under which the maximum is the maximum paid teachers holding degrees. Teachers in the senior high school holding an A.B. degree are given the maximum salary of $3,100.

THE WELLSVILLE SALARY SCHEDULE

The school board of Wellsville, N. Y., has adopted a single-salary schedule for the teaching staff. The new schedule, which is based upon training and experience, will become effective in September, 1928. The schedule is as follows:

Teachers' Salaries—Teachers in Class A, having two years or less of normal training, will begin at a minimum of $1,000, and advance at the rate of eight increments of $75 each, until a maximum of $1,600 is reached, after which they will advance to a supermaximum of $1,800; teachers in Class B, having three years of normal training, will begin at a minimum of $1,100, and advance at the rate of eight increments of $75, until a maximum of $1,700 is reached, after which they will advance to a supermaximum of $1,900; teachers in Class C, having four years of normal or college training, will begin at a minimum of $1,200, and advance at the rate of eight increments of $75, until a maximum of $1,800 is reached, after which they will advance to a supermaximum of $2,000; teachers in Class D, having five years of college training or a master's degree, will begin at a minimum of $3,000, and advance at the rate of eight increments of $75 each, until a maximum of $1,900 is reached, after which they will advance to a supermaximum of $2,100.

Principals' Salaries—Principals with two years or less of normal training will begin at a minimum of $1,100, and advance at the rate of six increments of $100, until a maximum of $1,700 is reached, after which they will advance to a supermaximum of $1,900; principals with three years of normal training will begin at a minimum of $1,200, and advance at the rate of six increments of $100, until a maximum of $1,800 is reached, after which they will advance to a supermaximum of $2,000; principals with four years of college training will begin at a minimum of $1,300, and advance at the rate of six increments of $100, until a maximum of $1,900 is reached, after which they will advance to a supermaximum of $2,100.

Vocational Salaries—Vocational teachers having a special certificate will begin at a minimum of $1,400, and advance at the rate of eight increments of $75, until a maximum of $2,000 is reached, after which they will advance to a supermaxium of $2,200.

Under the rules of the board, teachers who desire to advance from Class A to Class B, must present evidence showing the completion of 32 credit hours of work beyond the second year of normal, and must be eligible to receive a state teacher's license similar to that given to graduates of the state normal schools.

Teachers who desire to advance to Class C must present evidence showing the completion of 32 credit hours beyond the third year of normal school, and must have earned a bachelor's degree from a college or university accredited by the state board of regents.

Teachers who desire to advance to Class D must present evidence showing the completion of 32 credit hours of graduate work and must have received a master's degree from a college or university which has been accredited by the board of regents.

The supermaximum consists of two increments of $100 each, which must be earned as follows:

Teachers who have served in the Wellsville schools twelve years and who have secured twelve credit hours from a normal school or college, are entitled to the first increment of $100. The second increment will be given upon the completion of twelve more credit hours.

Teachers who have served in the schools twelve years and who have secured 24 credit hours of graduate study from an accredited college or normal school, will be entitled to the first increment of $100 at once, and the second increment will follow a year later.

Teachers who have served twelve years in the schools and who have between zero and twelve credit hours of graduate study, will be entitled to the first increment of $100 upon the completion of twelve credit hours, and the second increment after the completion of the second twelve credit hours.

Teachers who present evidence of having completed four or more credit hours of work in a summer-school course will be given a bonus of $50 the following year. To be eligible, teachers must have taught in the schools at least one year and must show evidence of credits earned.

THE TEACHER AND THE PEOPLE

If a teacher wants to have everybody molded according to the same pattern, he will have more trouble in being tolerant of people's differences than if he were not so keen to enforce uniformity. It is true that human nature is fundamentally much the same everywhere; all of us seek praise and avoid blame and desire recognition and friendliness, but each of us has a sort of special slant to his human nature, which sets him off and makes him an individual. I can get along well with people only when I recognize both their essential likenesses and their special differences.—Clara E. Howard, Kirksville, Missouri.

PASADENA NEW SALARY SCHEDULE

—Pasadena, Calif. The board of education has adopted a new salary schedule, which is to become effective in September. Under the schedule, 9 teachers will receive advancements in salaries of $500 each, 10 will be increased $400 a year, 20 will receive $300 a year additional, and 118 will receive $100 extra.

The schedule also lowers the salaries of some teachers. Under the schedule, 23 teachers will lose $600 a year; 18 will lose $500; 85 will lose $400;

(Continued on Page 108)

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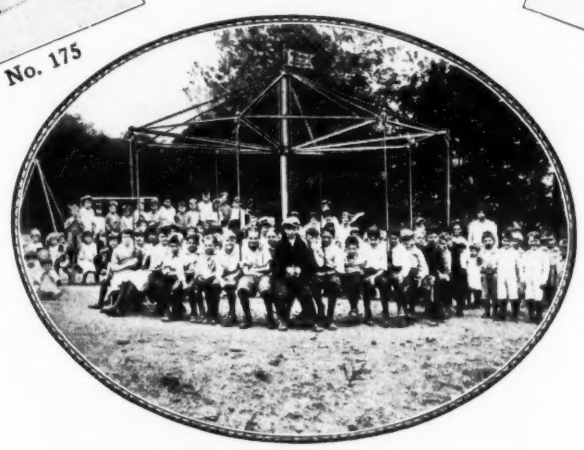
Safe **"BETTERBILT" Playground Apparatus** *Strong*

STANDARD SWING SET No. 175

COMBINATION OUTFIT No. 190.

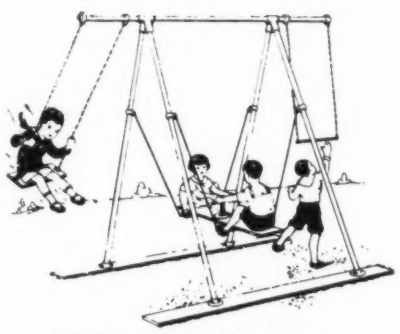


MERRY-WHIRL No. 500 "Patented"

THE NAME MITCHELL IS YOUR GUARANTEE OF SATISFACTION

The Mitchell Merry-Whirl will accommodate as many as fifty children at one time and it operates so easily on its roller and ball bearings that one little tot of five or six, can manipulate it alone without excessive exertion. Its ample capacity and variety of motion—swinging in and out from the mast as well as around it—adapts it to places where limited space precludes the use of more than one Playground attraction. A plot 30 ft. square is room enough for the Mitchell Merry-Whirl.

MITCHELL PLAYGROUND APPARATUS IS RECOMMENDED BY LEADING PLAYGROUND EXECUTIVES



JUNIOR SWING-BOB

KIDDIE SLIDE

FRED W. GREEN
IONIA, MICHIGAN
June 23, 1926.

Mitchell Manufacturing Co.,
Milwaukee, Wisconsin.

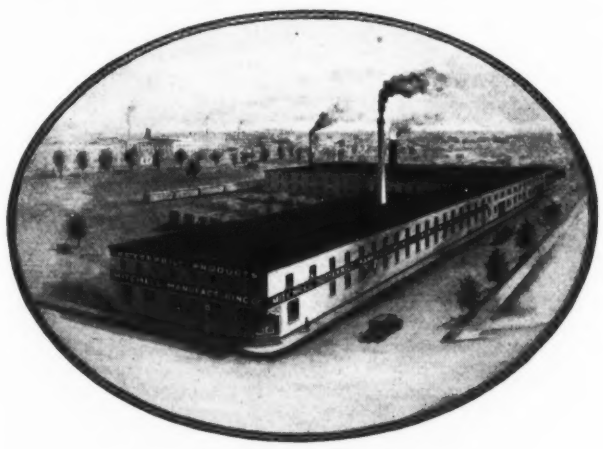
Gentlemen:—

The Mitchell Merry-Whirl which I purchased from you people last year is in active use daily in our park.

It is giving satisfaction in every way and fully meets our expectations. There is something about the nature of it that makes a strong appeal to the youngsters and I notice that it is never idle when there are children in the park.

Yours very truly,
(Signed) Fred W. Green.

Note.
Mr. Green is now Governor of Michigan.



THE HOME OF
MITCHELL "BETTERBILT"
PRODUCTS
Established in 1898

DON HARRINGTON, SUPERINTENDENT
W. C. HARTON, H. S. PRINCIPAL
ALBION PUBLIC SCHOOLS
ALBION, MICHIGAN
April 4, 1928

Mitchell Manufacturing Co.,
Milwaukee, Wisconsin.
Attention Mr. R. L. Nelson

Gentlemen:—

We have purchased and put in operation the Merry-Whirl about eighteen months ago. It has been in continuous use since that time in our school playground, has never been out of order and has been the most popular piece on the playground.

We plan to equip each of our playgrounds with this equipment as soon as our funds permit.

Respectfully,
DON HARRINGTON,
Supt.

MITCHELL MANUFACTURING COMPANY

1802 FOREST HOME AVE. MILWAUKEE, WIS.

Branch Offices — St. Paul - Cleveland - Wichita - Dallas

Detroit Atlas Portable Bleacher Seats

THE HIT OF THE SEASON

The points of chief importance to consider in purchasing portable bleacher seats are:—

SAFETY - LONG LIFE - COMFORT.

FREEDOM FROM FREQUENT REPAIRS AND REPLACEMENTS.

LOWEST AVERAGE COST PER YEAR.

SPEED AND EASE OF ERECTING — DISMANTLING AND TRANSPORTING.

OCCUPYING LEAST SPACE IN STORAGE. MOST ATTRACTIVE IN APPEARANCE.

THE COMBINATION OF ALL THE ABOVE VITAL POINTS IS EXCLUSIVE WITH DETROIT ATLAS.

EVERY SECTION AN INDEPENDENT UNIT WITH 4-STRINGERS. STEEL AND MALLEABLE CASTINGS CARRY EVERY STRAIN.

DETROIT ATLAS PORTABLE BLEACHER SEAT CO.

520 FREE PRESS BLDG., DETROIT, MICH.

Detroit Atlas Portable Bleacher Seat Co.
520 Free Press Building - Detroit, Michigan

We are interested in Bleacher Seats. Please send booklet and quote us on:

.....Sections .....Tiers High .....Seats
..... " ..... " ..... "

Signed.....

Address.....

(Continued from Page 106)

119 will lose $300; 225 will lose $100 a year in salary. The board has ruled, however, that no reductions in salary will be made next year and that teachers shall be paid in accordance with what they would have been entitled to under the old schedule.

The new schedule provides for four classes of teachers and general regulations are set forth whereby the teachers may advance to the higher classifications which pay higher salaries.

In brief, the new system places all teachers on an equal basis regardless of the number of years they have served the district. They will be paid for what they know.

Under the first classification, a teacher must be a graduate of a high school and a standard normal school and have two years of training. Salaries of $1,400 for the first three years up to $1,900 for seven years' experience will be paid in this class.

In Class 2 the requirements are the same except that one additional year of training must be obtained from a standard college and in subjects on which the teacher expects to teach. Salaries from $1,400 for the first two years to $2,300 at the end of eleven years will be paid.

Class 3 requirements are the same with four years of training or equivalent from a standard college. Here the salary starts at $1,600 for the first two years, and $2,500 at the end of eleven years.

Class 4, which is the highest, requires graduation from high school and college, with four years of training and a post graduate course at which a degree is obtained. Then the salary ranges from $1,800 for the first two years to $3,000 at the end of thirteen years.

This plan is for the ultimate benefit of the teacher for a higher maximum salary is paid in the end. However, it will not be attractive to new teachers with little experience.

Among the recommendations of Superintendent of Schools John A. Sexson approved by the board, is a ruling that teachers may not spend more than ten semester hours in one teaching year toward obtaining the rating for the next higher class. This eliminates the possibility of teachers neglecting their work at the schools in order to obtain higher ratings.

Credit will be given for foreign travel if it is shown that the travel has direct bearing on the subject taught by the teacher. In music and art, 1,200 hours of practical or laboratory work will constitute a year of training.

SALARY SCHEDULE FOR MINNEAPOLIS PRINCIPALS

The school board of Minneapolis, Minn., has adopted a salary schedule for elementary principals, which is to become effective in January, 1929. The schedule is as follows:

a) Ten to eighteen rooms inclusive

Less than required qualifications	With required qualifications
$2,600	$2,800
2,750	2,950
2,900	3,100
3,050	3,250
3,200	3,400
3,350	3,550
3,500	3,700
3,650	3,850
3,800	4,000
3,950	4,150
4,100	4,300

b) Nineteen rooms and over

Less than required qualifications	With required qualifications
$2,800	$3,000
2,950	3,150
3,100	3,300
3,250	3,450
3,400	3,600
3,550	3,750
3,700	3,900
3,850	4,050
4,000	4,200
4,150	4,350
4,300 Maximum	4,500 Maximum

Under the rules, the annual increment is $150 for teachers and supervisors, and $100 for assistant supervisors. The supervisors' maximum has been fixed at the same figure as the elementary principals' maximum, but the individual salaries will be determined upon the recommendation of the superintendent. The assistant supervisors' schedule is $200 above the teachers' schedule.

TEACHERS' SALARIES

—Decatur, Ill. The school board has adopted a new salary schedule for men teachers in the schools, which allows a difference of $225 between men's and women's salaries, with the increase on the men's side. Under the schedule, eight men will receive increases in pay. Men teachers with two years of training will start at $1,350 per year, with maximum possibilities for increases of $50 a year over an eight-year period.

The staff at present comprises 41 men, including four administrative officers. Several who now receive higher salaries than their educational training warrants will be given from two to four years to complete their training to the minimum requirements.

—Chicago, Ill. The board of education will shortly take up the demands of teachers for salary increases totaling $1,000,000 a year. The principal increases are for elementary teachers, whose pay now ranges from $1,200 to $2,500 per year. It is possible that slight increases will be given for all classes of teachers.

—Dover, N. H. The school board has adopted a new salary schedule for grammar-school teachers. The compensation of the teachers in the several grades, based upon their length of service, is as follows:

"First year, $800; second year, $850; third year, $900; fourth year, $950; fifth year, $1,000; sixth year, $1,050; seventh year, $1,100; eighth year, $1,150; principal of Belknap School, $1,300; principal of Sawyer School, $1,650."

—Taunton, Mass. Salary increases for high-school teachers amounting to $3,600 have been ordered by the school board. A total of forty teachers will benefit from the increase which in the majority of cases is $100 per teacher. A few teachers who had reached the maximum, were given increases of only $50.

—Superior, Wis. A single-salary schedule for teachers in the public schools has been adopted by the board of education, classifying and paying the teachers according to training, experience, and college degrees. Under the schedule, the yearly salaries will range from $900 to $2,600. New teachers are placed on probation for a three-year period.

—Des Moines, Iowa. For the first time in four years, the school board has given salary increases to the teachers on the school staff, amounting to a total of $15,000. The increases which range from $5 to $140 a year, will benefit one third of the teachers, as the higher-salaried teachers receive no increase at this time.

—Gridley, Calif. The trustees of the Gridley Union High-School District have made drastic reductions in the salaries of the teaching staff, amounting in some cases to a considerable fraction of the previous rate. The salary of the principal has been reduced from $4,000 to $3,200 and a reduction of $500 has been made in the salary of

(Concluded on Page 110)

THE FUN-FUL LINE
PLAYGROUND EQUIPMENT

Superiority and Safeness in Playground Equipment

The Fun-Ful Playground Equipment offers the largest and most comprehensive line of approved and guaranteed playground apparatus, incorporating the elements of pleasure and safeness in design and construction.

Fun-Ful Playground Equipment

Coasters
Swing Sets
Ocean Waves
Outdoor Gyms
Giant Strides
School Slides
Spiral Slides
Teeter Ladders
Traveling Rings
Seesaw Outfits
Merry-Go-Rounds
Horizontal Ladders
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Combination Sets

Fun-Ful Playground Equipment is the product of nearly thirty years' experience of the Hill-Standard Co. devoted exclusively to the development and manufacture of children's outdoor, health-building goods.

Fun-Ful Playground Equipment because of its superiority, safety, and pleasure-giving qualities is approved, and successfully used on school playgrounds throughout the country.

Fun-Ful Swimming Pool Sports Apparatus

Water Slides
Marine Monsters
Balsa Wood Surf Boards
Life Buoys
Safety Pool Matting
Landing Stairs
Spring Boards
Aqua Planes
Pool Ladders
Diving Towers
Water Ponies
Life Line Buoys
Depth Markers
Life Lines, etc.

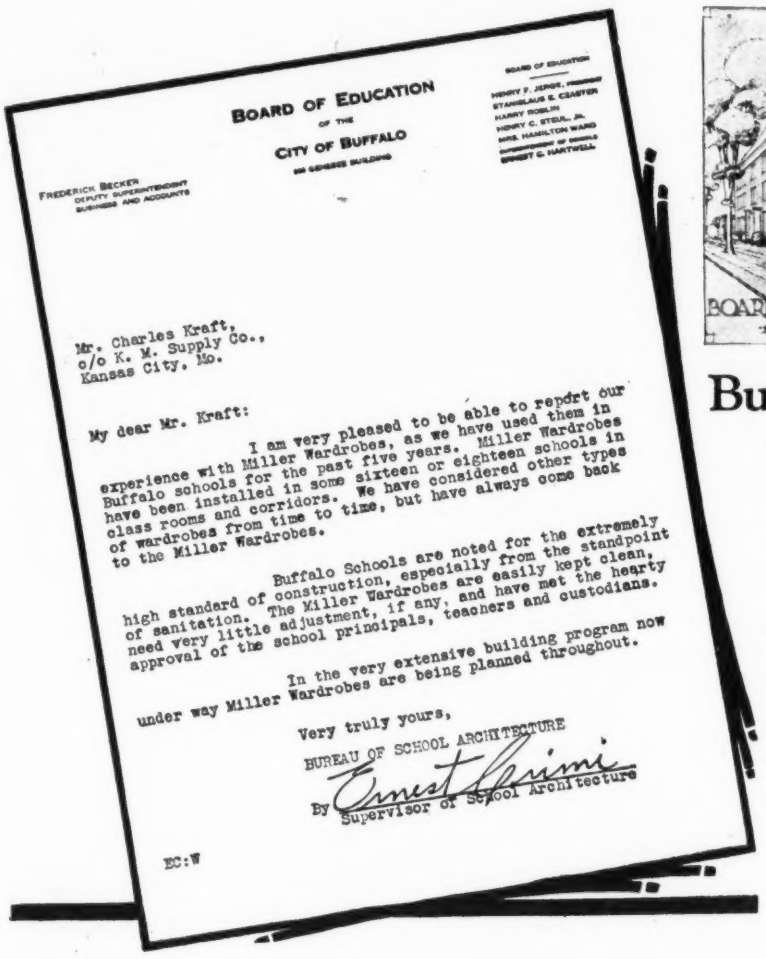
Catalog and any information desired concerning our goods gladly sent on request.

Largest manufacturers of Playground Equipment.

Awarded Gold Medal Brazilian Centennial Exposition, 1923.

HILL-STANDARD CO.

ANDERSON *Established 1900* INDIANA, U. S. A.


BOARD OF EDUCATION
OF THE
CITY OF BUFFALO

FREDERICK BECKER
DEPUTY SUPERINTENDENT
BUSINESS AND ACCOUNTS

Mr. Charles Kraft,
c/o K. M. Supply Co.,
Kansas City, Mo.

My dear Mr. Kraft:

I am very pleased to be able to report our experience with Miller Wardrobes, as we have used them in Buffalo schools for the past five years. Miller Wardrobes have been installed in some sixteen or eighteen schools in class rooms and corridors. We have considered other types of wardrobes from time to time, but have always come back to the Miller Wardrobes.

Buffalo Schools are noted for the extremely high standard of construction, especially from the standpoint of sanitation. The Miller Wardrobes are easily kept clean, need very little adjustment, if any, and have met the hearty approval of the school principals, teachers and custodians.

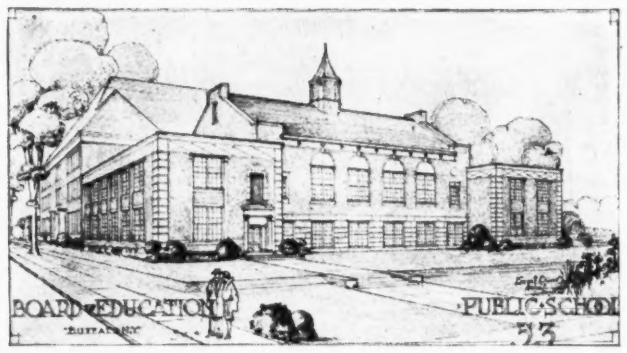
In the very extensive building program now under way Miller Wardrobes are being planned throughout.

Very truly yours,

BUREAU OF SCHOOL ARCHITECTURE

By Ernest Crimi
Supervisor of School Architecture

EC:W



Buffalo, N.Y., School Board
Chooses Miller Wardrobes

Buffalo schools are noted for their high standards of construction, especially from the standpoint of sanitation. Architect Ernest Crimi, Supervisor of School Architecture, has used Miller Wardrobes in a great many Buffalo school buildings—and has considered other types of wardrobe from time to time. But (to quote his own words) "we have always come back to the Miller Wardrobes."

Miller Wardrobes are to be used throughout the extensive building program now under way in Buffalo. That's because Millers give more building for less money; a reduction in heating expense; perfect ventilation; maximum discipline; no waste of wall space; security from petty pilfering; and perfect, trouble-free service. Write for a copy of Catalog W-6, showing typical installations in schools throughout the nation.

K-M SUPPLY CO.

Manufacturers of Miller School Wardrobes

123 W. Eighth St. Kansas City, Missouri

(Concluded from Page 108)

one of the vocational teachers. The reductions in pay are intended to be horizontal, and will affect all except two teachers.

—Beaver Dam, Wis. The board of education has adopted a salary schedule for teachers, which is based on training and experience. Under the plan, teachers will receive compensation according to the amount of training received and the amount of successful work in the schools.

Under the plan, graduates of a two-year normal course will be paid from $1,000 to $1,200 a year. For each six weeks of training above graduation from a two-year normal course, the sum of $25 will be added. For each year of successful experience elsewhere, the sum of $50 will be added. Additional salary for each year of successful experience in the schools will be determined by the board, upon the recommendation of the superintendent.

The minimum salaries, without experience, are as follows: Two years above high schools, $1,000; three years above high schools, $1,150; four years of experience above high school, $1,300; five years of experience above high school, $1,450; for men teachers, $1,600; for elementary principals, $50 to $100; for double-grade positions, add $25.

Under the rules, the salaries are not retroactive. Additional training after the annual election will not change the contract salary.

—The salaries of teachers, principals, and superintendents in Oregon have for years been materially below those paid in other states, particularly in California. During 1927-28, only two superintendents outside of Portland, were paid as much as $4,000 and those just $4,000. Next year there will be at least three more entries in the big league with a $4,500 top instead of $4,000, while one contract calls for a salary of $5,000 during 1929-30.

The salaries for 1928-29 are expected to show a very distinct upgrade. This has become very noticeable in certain appointment bureaus where teachers are selected for positions. A few years ago, the standard salary of an inexperienced teacher of average ability was $125 per month. This year, $140 is the comparable figure, quite a large number going out at $150, and a few at $1,500 to $2,000 in administrative and other positions.

DEATH OF MR. I. H. SPENCER

Ira H. Spencer, inventor, and founder and president of the Spencer Turbine Company of Hartford, Connecticut, died April 28, after a short illness.

Mr. Spencer was one of the leading authorities of the country on blowers and exhausters. His interest in mechanics was apparent at an early age. When only a boy, he experimented with water motors and air-compressor engines. A Spencer water motor, developed by him in 1892, at the age of 18, is still used to pump the organ in a Hartford church.

Shortly after this invention, or in 1895, he organized the Spencer Motor Company, which later became the Organ Power Company, which produced the first practical electrically operated organ blowers.

In 1904, Mr. Spencer began experiments with stationary exhausters for cleaning buildings by the vacuum method and organized the Spencer Turbine Cleaner Company in 1907. This work soon met with success.

On July 2, 1918, the two Spencer companies were consolidated and known thereafter as the Spencer Turbine Company, with Mr. Spencer as president. He continued his experimentations with air machines and produced the line of Spencer turbo-compressors used for operating oil and gas-fired furnaces and ovens, and cupolas.

Mr. Spencer's business relations were notably cordial and friendly and his dealings exhibited the highest type of ethics, honor, and motive in business.

PERSONAL NOTES OF SCHOOL OFFICIALS

—John H. Bailey, Jr., was reelected superintendent by the Coventry, R. I., school committee.

—Oscar Chesterfield was named a member of the Clinton independent school board by the city council.

—J. W. G. Merritt has been appointed a member of the school board at Blaine, Wash.

—By a unanimous vote, W. W. Prescott was reelected president of the school board at Osceola, Ark. Charles E. Sullenger was reelected secretary.

—H. M. Burleson is the new member of the school board of Johnson City, Tenn.

—John W. Hart was elected to membership of the Kendalville, Ind., school board.

—James L. Harman was elected for a three-year term to the school board of Elkhart, Ind. He has already served for six years. Other members of the board are H. A. Compton, president, whose term comes to a close August 1, 1929, and F. W. Gampher, treasurer, who has two years yet to serve. Since he became a member of the board in 1922, Mr. Harman has held the office of secretary.

—John T. Temple was elected a member of the school board of English, Ind.

—Lee H. Piper and Albert Lowe were reelected members of the Minot, N. Dak., school board.

—Herbert J. Forsberg succeeds the late Charles A. Bronson as secretary of the school board of Duluth, Minn.

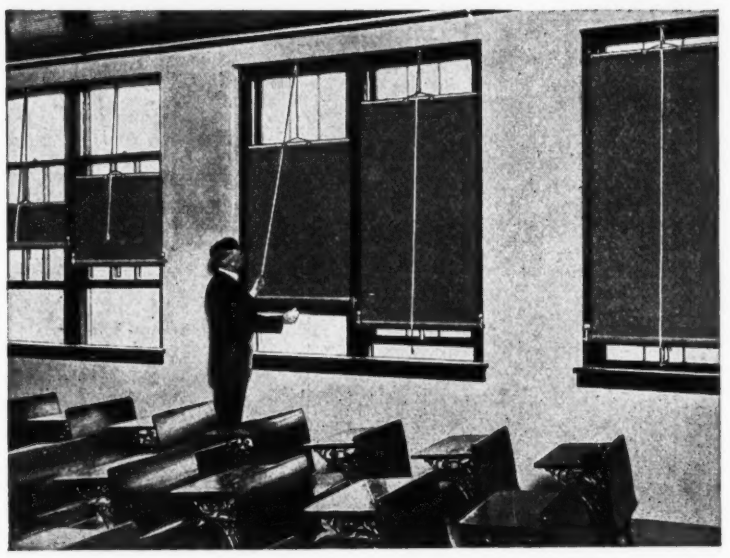
—G. D. Henderson was elected president of the school board of Little Rock, Ark. Mrs. Lillian McDermott was elected secretary, and W. A. McDonnell, treasurer.

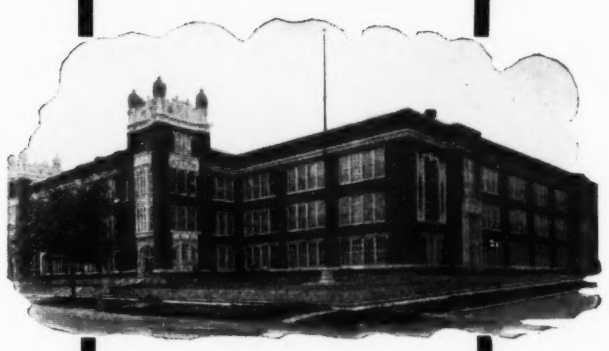
IMPORTANT SCHOOL-BOND SALES
During the Month of May, 1928

California—Los Angeles Co., Burbank City High-School District	$ 502,000
California—Los Angeles Co., Burbank City School District	263,000
Illinois—Cook Co., School District No. 76	400,000
Illinois—Cook Co., School District No. 170	330,000
Illinois—Oak Park, School District No. 97	700,000
Massachusetts—Fall River, Technical High School	630,000
Michigan—Pontiac, School District Series "A"	295,000
Minnesota—Brainerd, School District	300,000
Minnesota—Fairmont, School District	250,000
New Jersey—Atlantic City, Convention Hall, School, General Improvement, Water, and City Improvement	2,307,000
New Jersey—Jersey City, School	276,000
New Jersey—Pleasantville, School	633,000
New York—Hempstead, School District No. 1	500,000
New York—Hempstead, Union Free School District No. 2	300,000
New York—New York, School Construction	7,150,000
Ohio—Toledo, City School District	270,000
Pennsylvania—McKeesport, School District	580,000
Pennsylvania—Pittsburgh, School District	1,500,000
West Virginia—Fairmount, Independent School District	519,000
West Virginia—Martinsburg, School District	293,000
TOTAL	$17,998,000

Draper Adjustable Window Shades

Preferred in Schools Throughout America

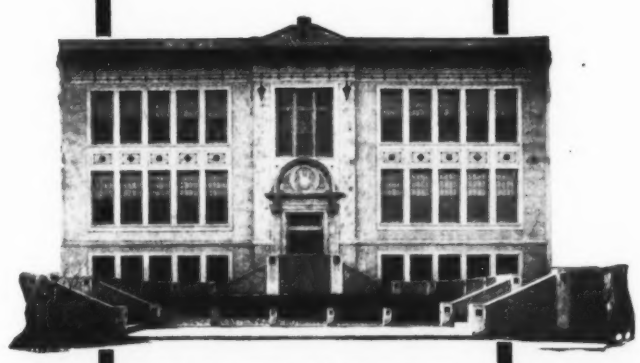




1. Theodore Roosevelt Junior High School, Rockford, Ill., having 497 windows all equipped with Draper Shades.

2. The new Roosevelt Junior High School Building at Fargo, N. D., is equipped throughout with Draper Adjustable Shades.

3. Here is a photograph of the Central High School at Houston, Texas, which is completely equipped with long-lasting Draper Adjustable Shades.



4. The Jonesmore School, Portland, Oregon, is equipped with Draper "Sanitary" Roller Shades.

For nearly thirty years, Draper Adjustable Window Shades have been providing correct control of sunlight and affording better ventilation in schools throughout America. Draper Shades are the standard to which all other adjustable shades are compared.

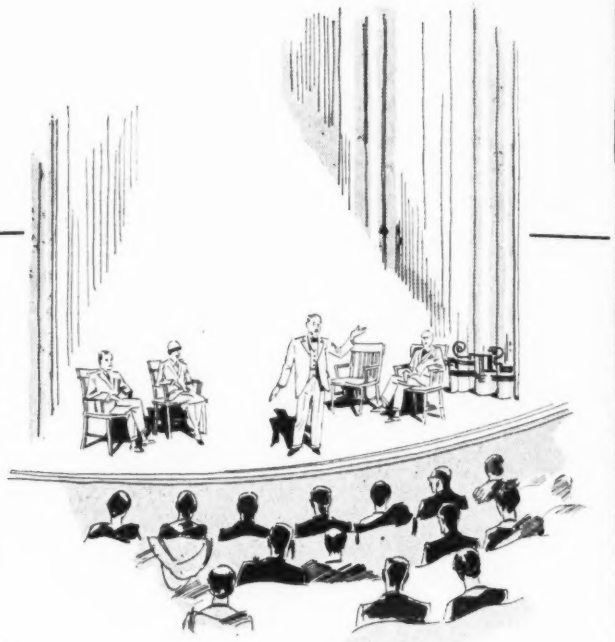
Unequalled Draper Features

Draper Adjustable Window Shades are **Adjustable,** from top or bottom; **Sanitary,** because there is no need to touch the shade with the hands; **Durable,** made of the best quality materials; **Translucent,** sunlight is softly modified and properly diffused; **Attractive,** most tasteful and distinctive of designs; and **Practical,** easily cleaned and quickly adjusted to meet all conditions.

Write for samples.

LUTHER O. DRAPER SHADE CO.
Spiceland - Indiana

Acousti—Celotex QUIETS Annoying Sounds



Auditorium, Royal Oak High School, Royal Oak, Michigan. Acousti-Celotex, applied to the ceilings, absorbs disquieting noises and echoes and improves acoustical conditions. Acousti-Celotex is also installed in the two gymnasiums, natatorium, and orchestra rooms. George P. Little Co., Acousti-Celotex Contractor.

NOISES and echoes in school auditoriums ruin many assemblies and musical programs. Annoying sounds also handicap students and teachers by distracting their attention . . . straining their nerves.

You can stop noise from taking this daily toll of energy by applying Acousti-Celotex to ceilings. This sound-absorbing material swallows-up disturbing sounds coming from gymnasiums, shops, and other rooms.

Acousti-Celotex comes in several different types, including BB, which has a sound-absorbing efficiency of 70%—the highest of any material on the market. This high sound-absorption value is due to small drilled openings which bury noises deep inside the tiles.

Acousti-Celotex is made from long tough fibres of cane. And it comes in single complete units that are easily installed in any building, new or old.

How much better your students can concentrate . . . how much easier they can study when given this protection against nerve-wearing noise!

The word
CELOTEX
(Reg. U. S. Pat. Off.)
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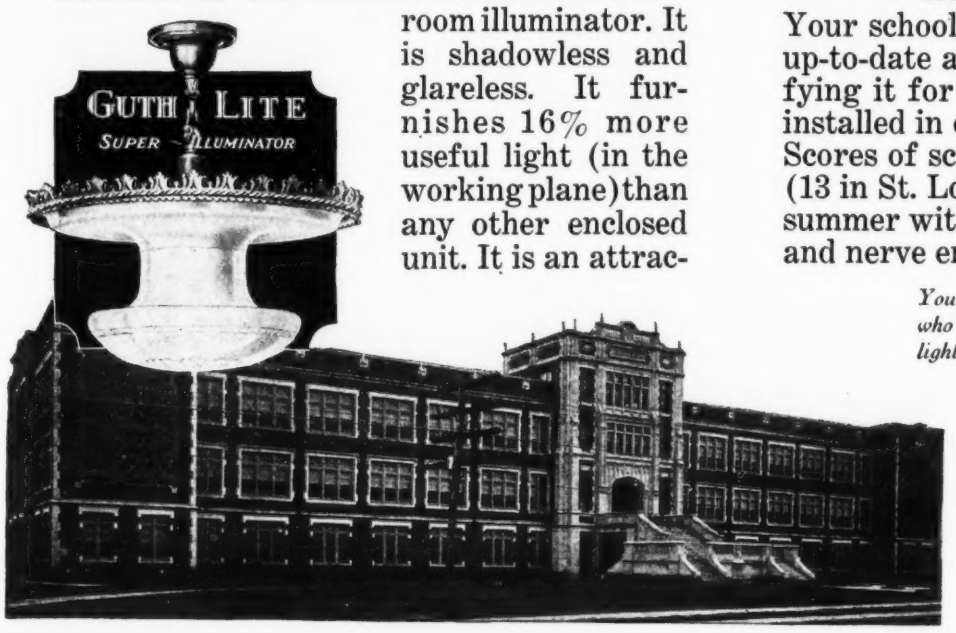
ACOUSTI-CELOTEX
FOR LESS NOISE—BETTER HEARING

Modern Schools MUST HAVE Modern Light

MORE important than fine buildings, equipment, or curriculum in today's schools is the matter of Light. Good Light your students *must* have. Their eyesight, their health and their progress demand it.

GuthLite is the modern scientific schoolroom illuminator. It is shadowless and glareless. It furnishes 16% more useful light (in the working plane) than any other enclosed unit. It is an attractive Fixture, low in first cost and very economical of current consumption. It is the latest achievement of Lighting Engineers who have spent 30 years in the development of Lighting equipment.



Refixturing Old Schools

Your school buildings, too, should have this up-to-date advantage. Architects are specifying it for new buildings; it can easily be installed in older buildings during vacation. Scores of schools in all parts of the country (13 in St. Louis alone) were re-fixtured last summer with GuthLite to conserve eyesight and nerve energy.

Your request will bring a Lighting Expert who will gladly make a survey of your lighting needs, without cost or obligation.

The EDWIN F. GUTH COMPANY
2615 Washington Avenue
ST. LOUIS, MO.

Makers of the world-famous Brascolite.

PERSONAL NEWS OF SUPERINTENDENTS

—Mr. James Reardan has been elected superintendent of schools at East Bridgewater, Mass.

—Supt. R. G. Jones of Cleveland, Ohio, has been reelected for a new five-year term, with a salary of $15,000 per year. Supt. Jones is serving his third term since his election in 1920.

—Supt. Frank Jensen of Rockford, Ill., has been elected president of the Superintendents' and Principals' Association of Northern Illinois.

—Mr. John T. Symons has been elected superintendent of schools at Coldwater, Mich., to succeed Charles F. Hamilton.

—Supt J. V. Voorhees of Eveleth, Minn., has been reelected for a ninth consecutive term, with a salary of $6,500 per year.

—Supt. T. L. White of Lawrenceville, Ga., has been relected for another term.

—Mr. R. P. Wilker of Berwyn, Ill., has been elected superintendent of schools at Bradley, to succeed J. A. Wieland.

—Supt. Leonard Young of Duluth, Minn., has been reelected for another year.

—Mr. H. W. Hodson has been elected superintendent of schools at Wilmington, Ohio. Mr. D. H. Patton will succeed Mr. Hodson as superintendent of the Clinton county schools.

—Mr. Charles F. Grosjean of Terre Haute, Ind., has been reelected as assistant superintendent of schools for the next year, with a salary of $5,000 per year.

—Mr. C. C. Crosswhite of Jeffereson City, Mo., has been elected superintendent of schools at Cameron. Mr. Crosswhite was for the past two years principal of the Simonsen Junior High School at Jefferson City.

—Mr. C. W. Price has been elected superintendent of schools at Evart, to succeed F. A. Smiley.

—Supt. R. S. Ebert of Carrollton, Ill., has been reelected for another year, with a substantial increase in salary.

—Mr. L. W. Adams of Casselton, N. Dak., has been elected superintendent of schools, to succeed O. E. Smith.

—Miss Elizabeth Ireland, superintendent of schools at Havre, Mont., has announced her candidacy for the Republican nomination for state superintendent of public instruction.

—Supt. D. B. Hoffman of East Moline, Ill., has been reelected for another year, with an increase of $100 in salary, making his salary $3,900 a year.

—Mr. R. W. Welsh of Ford City, Pa., has been elected superintendent of schools at Kane.

—Supt. R. W. Fairchild of Elgin, Ill., has been reelected for a new three-year term. Mr. Fairchild is the first superintendent in Illinois to be elected for a three-year term, as a law was only recently passed making long-term elections possible in the state.

—Mr. H. L. Bleeker of Hart, Mich., has been elected president of the Western Michigan Round-Table Conference.

—Mr. R. M. Eyman has been elected superintendent of schools of Fairchild county, Lancaster, Ohio, to succeed Mr. J. F. Bemiller, who has gone to Galion.

—Mr. T. L. Carlton of Eastland, Tex., has been elected superintendent of schools at Frisco.

—Mr. J. L. Prescott of Laingsburg, Mich., has been elected superintendent of schools at Nashville, to succeed E. E. Devereaux.

—Mr. S. J. Lewis of Vanderbilt, Mich., has been elected superintendent of schools at Johannesburg.

—Mr. M. J. Clark of Owensboro, Ky., has been elected superintendent of schools at Union City.

—Supt. W. S. Goudy of Durand, Mich., has been reelected for another year.

—Supt. J. J. Cavanaugh of Kaukauna, Wis., has been reelected for a three-year term.

—Mr. E. M. Blomquist has been elected superintendent of schools at Hematite, to succeed C. M. Street.

—Mr. Ira C. Landis has been elected superintendent of schools at Riverside, Calif., to succeed A. N. Wheelock.

—Mr. W. E. Davidson of Evanston, Ill., has been elected superintendent of schools at American Falls, Idaho. Mr. Davidson returns to American Falls after an absence of two years.

—Superintendent Archie G. Leonard of Farmington, Mich., was the guest of honor at a dinner arranged by the local people. The local newspaper said: "It is doubtful whether a finer or more enjoyable event has ever taken place in Farmington than the testimonial banquet to Mr. Leonard. It was a splendid tribute to a man whose services are well worthy of it."

—B. C. Moore has been reelected superintendent of the Eureka, Ill., schools.

—John G. McKay remains as superintendent of the Ubly, Mich., schools for another year.

—M. L. Duggan, state superintendent of education for Georgia is a candidate for reelection. The Augusta Chronicle says: "The position of school superintendent should be eliminated as far as possible from the process of politics and at the same time an able and conscientious worker should be accorded the distinction of serving the youth of the state in this high capacity and somehow we believe Mr. Duggan will measure up fully to these qualifications."

—Mr. Ira C. Landis has been elected superintendent of schools at Riverside, Calif., to succeed A. N. Wheelock.

—Supt. Eugene LaRowe of Maywood, Ill., has been reelected to serve a sixteenth consecutive term.

—Mr. M. L. Duggan state superintendent of public instruction of Georgia, has announced his candidacy for the office for another term. Mr. Duggan has served as head of the department of education since the death last summer of the late Mr. F. E. Land, whose unexpired term he is now filling.

—Supt. J. H. Winstrom of Springfield, Ill., has been reelected for the school year 1928-29.

A WORD FOR POLITICIANS

By any definition, all who seek office, and all who by their fellows are elected to legislative, judicial, or executive offices are politicians. Fortunately for our nation most of ours, now as in the past, in spite of recurring misrepresentation and abuse, in which we join, are patriotic, able, and faithful servants of the state. In a republic, politicians are a necessity. Most of ours are, and even more of them would like to be friends of education and of the schools.

Thank God for our politicians.—Ernest W. Butterfield, State Commissioner, New Hampshire.

The modern laundry building of the State School for the Deaf, Austin, Texas.

Down in the LONE STAR STATE

THE State School for the Deaf, in Austin, Texas, is one of many schools having its own laundry—planned and installed, of course, by The American Laundry Machinery Company. This department handles the work with precision—delivers a perfect grade of work, economically and in record time.

You will be interested in a summary of the experiences of "American" engineers in installing large and small school laundries everywhere. We will be glad to furnish file-facts and photographs. No obligation whatever—just mention your enrollment figures.

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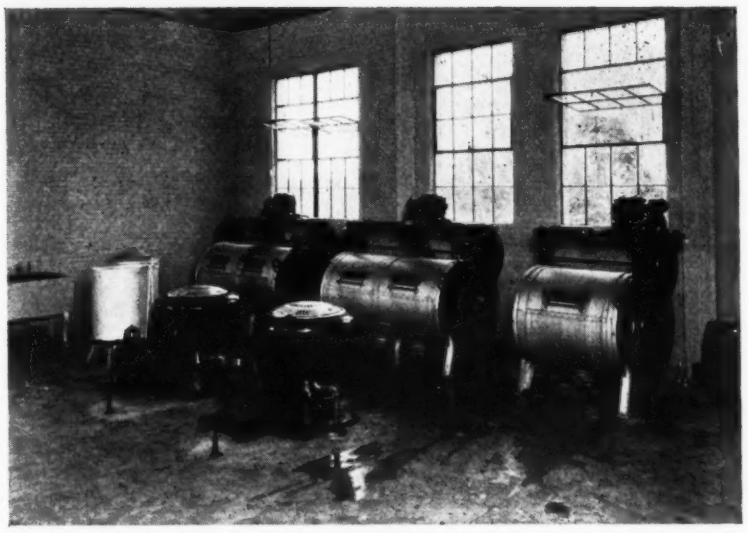

A corner of the "all-American" laundry at the Texas State School for the Deaf, where linens are washed immaculately, ironed perfectly, and returned to service promptly.

—Supt. Thomas W. Gosling of Madison, Wis., was the guest of honor at a banquet on May 21, at the Loraine Hotel. Four hundred persons, including teachers, members of the board of education and the secretarial staff of the schools were present to honor Mr. Gosling, who goes to his new superintendency at Akron, Ohio. In appreciation of his services, Mr. Gosling was presented with a gold watch and chain on behalf of the teachers, the school board, and the secretarial staff.

—Mr. L. F. Collins of Burbank, Calif., has been elected superintendent of schools at Chino, to succeed B. M. Aldrich.

—Mr. F. H. Boren of Oakland, Calif., has been appointed superintendent of the Union High School and Junior College at San Mateo, Calif.

—Asst. Supt. William J. Bogan of Chicago, Ill., was the guest of honor at a banquet on May 24, at which 700 teachers and principals, members of the junior-high-school club, were the hosts. The speakers at the banquet were Mr. Bogan, Mr. W. H. Sexton, and Mr. J. F. Tyrell.

—Supt. G. C. Butler of Palatine, Ill., has been reelected for a new three-year term. Supt. Butler has been at the head of the Palatine schools for the past eight years.

—Mr. Silas R. Morse, formerly a member of the New Jersey state board of education and well known throughout south Jersey as an educator, died at his home on May 23, of heart disease. Mr. Morse was 88 years old.

Mr. Morse was the first city superintendent of schools in Atlantic City. In 1877 he became county superintendent of schools, which position he held for fifteen years. He resigned in 1894 to accept an appointment on the state board of education. He was active in the organization of the Guarantee Trust Company of Atlantic City, and the First National Bank of Mays Landing.

—Mr. A. R. Boone, superintendent of schools at Carbondale, Ill., has been reelected for his eleventh consecutive term.

—Mr. C. W. Price has been elected superintendent of schools at Evart, Mich., to succeed F. A. Smiley.

—Mr. J. L. Prescott of Laingsburg, Mich., has been elected superintendent of schools at Nashville.

—Supt. F. C. Wilbur of Vandercook Lake, Mich., has been reappointed for a three-year term.

—Supt. W. H. Gordon of Northville, Mich., has been reelected for another year, at an increase in salary.

—Mr. J. C. Anthony of Danvers, Mass., has been elected superintendent of schools at Dedham. Mr. Anthony came to Danvers in 1922 from Melrose, in which city he had held a similar position for a long period of time.

—Mr. J. A. Andrews has been elected superintendent of schools at Monticello, Mo., to succeed F. J. Gray.

—Mr. J. G. Williams of Girard, Kans., has been elected superintendent of schools at Mineral, to succeed J. J. Whitehead.

—Suit for $50,000 damages has been filed against Supt. H. P. Shepherd of Nashville, Tenn., by Rupert Reynolds, principal of the Fair Garden School, in circuit court. In the suit, Mr. Shepherd is charged with libel, because he issued a public statement in which he charged Reynolds with inefficiency. It is claimed that Mr. Shepherd's statement has damaged Mr. Reynolds in his profession as a teacher.

—Mr. E. S. Simmons of Belleflower, Ill., has been elected superintendent of schools at Pittsfield, to succeed R. B. Browne.

—Supt. S. H. Holmes of New Britain, Conn., has been reelected for another three-year term.

—Supt. R. W. Fairchild of Elgin, Ill., has been reelected for a three-year term.

—Mr. Roy P. Wisehart, state superintendent of public instruction of Indiana, has announced his candidacy for the nomination to his position. Mr. Wisehart was appointed by the governor in August, 1927, when Mr. Charles Miller resigned to become superintendent at Indianapolis.

—Supt. R. D. Eadie of Brunswick, Ga., has been reelected for another year.

—Mr. Arthur H. Hines of Richmond, Ind., has announced his candidacy for the office of state superintendent of public instruction.

—Mr. G. S. Foster of Hartford, Mich., has accepted a position as instructor in American history in the senior high school at Battle Creek.

POSSIBILITIES OF EDUCATION

The possibilities of education are without practicable limit. The teacher can make the world over in a single generation! But whatever education achieves, it is dependent upon the training, discipline, and ideals set up in the teaching profession. Education, civilization, and progress are coextensive. Whether or not the human race advances, depends upon the teacher and education.—Elmer Holbeck, Passaic, N. J.

—Mr. John Eichhorn of New Paris, Ohio, has been appointed superintendent of schools, to succeed P. G. Andrews.

—Mr. R. A. Buell of Watertown, Wis., has been reelected as head of the school system for the next school year.

—Mr. O. T. Marston has been elected superintendent of schools at Blandinsville, Ill.

—Miss Florence Kerr, formerly principal of the Gallia Academy High School at Gallipolis, Ohio, has accepted the position of dean of girls in the same school. Mr. Edwin Higgins has been elected principal of the high school, to succeed Miss Kerr.

—Mr. K. R. Vermillion, superintendent of schools at Gallipolis, Ohio, is spending the summer months at Columbia University, where he is specializing in school administration.

—At the regular May meeting of the board of education at Rockford, Ill., Supt. Frank A. Jensen was reelected for a three-year term, with a substantial increase in salary. Supt. Jensen, who is completing his fifth year of work in Rockford, will receive $8,000 during 1928-29; $9,000 in 1929-30; and $10,000 in 1930-31.

—Mr. Philip Fitch, who has been appointed principal of the manual training high school at Denver, Colo., is a graduate of the East High School, Denver, and completed work for the degree of A.B. at Colorado College and A. M. at the University of Denver. He completed several courses at the University of Chicago and attended two summer terms at Teachers' College, Columbia University. Mr. Fitch succeeds Mr. Charles A. Bradley, who retires after 45 years of service.

—Supt. Albert H. Covell of Oneida, N. Y., has been reelected for the next school year.

—Supt. Raymond C. Burdick of Watertown, N. Y., has been reelected at a salary of $6,000. Mr. Burdick is completing his fourth year of work in Watertown.

—Dr. F. G. Robinson has been elected as president of the College of the City of New York. Dr. Robinson, who was born in Brooklyn, studied in the city's public schools, began his teaching career in the city schools, and entered the College of the City of New York in 1906. He holds two degrees given by New York University.

—Mr. Homer H. Seerley has resigned as president of the Iowa State Teachers' College. As president emeritus of the College, Mr. Seerley will still give

(Concluded on Page 116)

LYON

Twelve hundred Lyon Steel Lockers to the school. That's the average in Detroit for forty schools. One at a time, this enviable total has been built up on Lyon performance. And they know fine steel products in Detroit. They know why Lyon frames are strong, the doors rigid, the hinges solid, the locking device positive, and the finishes lasting. There is a Lyon Engineering Service, given without cost, to school boards and their architects who are planning locker installations. Write us for complete information on this service and locker that are known and appreciated the nation over.

LYON METAL PRODUCTS, INCORPORATED, AURORA, ILLINOIS

Successor to:

DURAND STEEL LOCKER CO. *Chicago Heights, Ill.*

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LYON STEEL PRODUCTS

Steel Shelving . . . Lockers . . . Cabinets . . . Counters . . . Steelart Folding Tables and Chairs. General Steel Storage Equipment and Steel Furniture. The Lyon name and trade mark attest the strength, finish, usefulness and durability of Lyon Steel Products.

Children are eager to help when **SOLARS** *are handy*

It's the patented gravity-swinging top which impels use. CHILDREN LIKE TO USE IT.

Hundreds of educational institutions have found this to be true. They are experiencing CLEAN, HEALTHY classrooms and school grounds as a result.

Built of all steel construction, SOLARS will stand up under hard usage for years. There is nothing to get out of order.

THESE SIX REASONS RECOMMEND SOLARS

1. SILENT
2. EASY TO USE
3. SANITARY
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SOLAR *Self-Closing* RECEPTACLES *easy to operate*

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(Concluded from Page 114)

his wise counsel to the institution which he has served so long and so faithfully.

—The board of education of Irvington, N. J., refused to reappoint Supt. R. Lee Saunders for a period of five years, but instead offered him a one-year contract and at the same time terminated his services as principal of the Florence Avenue School. Mr. Saunders refused the new contract because under it the board may terminate his services even before the expiration of the year.

—The board of education of Berkeley, Calif., has been deadlocked over the selection of a successor to Supt. H. B. Wilson. Mr. C. James, a former deputy superintendent, has filled the position but has declined to continue. Under a plan adopted by the board, several prominent educators will be asked to make the selection of a superintendent. Those upon whom this task of selection falls are: President W. W. Campbell, of the University of California; President Ray Lyman Wilbur, of Stanford; President Rufus B. von Kleimsmid, of the University of Southern Californa; State Superintendent of Public Instruction William J. Cooper, and Superintendent of Schools Joseph Marr Gwinn, of San Francisco.

—Supt. H. L. Rawdon of Oberlin, Ohio, has been presented with a life membership in the National Education Association. The presentation was made by the teaching staff at a dinner given on May 4. Mr. Rawdon has been a member of the Association since 1908.

—Mr. T. Gordon Bennett has been reappointed superintendent of the Queen Anne's county, Maryland, schools. The Centreville Record says: "The schools of this county are among the few that are run on the minimum amount required by law, and as each scholastic year is closed, the ledger has balanced on the right side. In doing this, Mr. Bennett has not neglected the standard of teaching or of teachers, but has placed this county well in the forefront."

—The Hall township high-school board at Spring Valley, Ill., is split over the retention of Supt. J. W. Sullivan. The latter resigned but the citizens want him to remain. Some of the board members want C. L. Sarver, grade-school superintendent at Spring Valley. When the vote was cast, Wilson, Dr. J. J. Moran, and Charles Kuhl were recorded in favor of hiring Sarver. Opposed to the motion were B. F. George, J. C. Sitterly, and J. T. Hight, who are backing Sullivan. The deciding vote was cast by President George Thompson, who sided with the Sarver faction, but later this action was rescinded pending word from the state superintendent as to the legality of the contract signed by the old board.

—G. L. Jenner has been reappointed for two years as superintendent of schools at Bay City, Mich.

—Vernon G. Mays has been reelected superintendent of the Lebanon, Ill., city schools and the community high school at an increase in salary. He has been engaged to teach in the summer session of the social-science department of McKendree College.

—Dr. Maurice E. Rogalin, principal of public school No. 64, Bronx, has been named principal of the Jamaica Training School by the New York City board of education. Dr. Rogalin had been recommended by the board of superintendents but an effort was made by students and faculty members to sidetrack the recommendation and secure the appointment of Joseph F. Cashman. President Ryan of the board of education, in a statement, said that to accept recommendations of students and faculty "would automatically cast aside one of the most important functions of the board of superintendents."

—Willis A. Sutton has been reelected superintendent of the Atlanta, Ga., schools for a term of three years.

THE SUPERINTENDENT AS LEADER

Leadership requires a positive personality, not negative. A positive personality enables its possessor to be an executive—a director of affairs. The negative personality makes him a follower. The positive personality makes decisions—the negative stands in doubt. The positive goes direct to the point—the negative wavers, qualifies, dawdles, vacillates. The positive personality ventures in life—the negative is afraid to take the risk. The positive knows he believes a thing—the negative is not sure. The positive person is dynamic—the negative is static. The one has confidence—the other lacks it. The one plans his actions and puts them into practice—the other follows a beaten path. The one has energy, courage, and conviction—the other weakness and indecision. Which way are we headed.—John H. Beveridge, Superintendent, Omaha, Nebraska.

—The school board of Windsor Locks, Conn., by a vote of four to two, decided not to reengage George S. Wright, supervising principal of the high school. The differences which have arisen between Mr. Wright and the board relate to questions of discipline which the members are not willing to discuss publicly and thus invite a newspaper controversy.

—The Rockland, Mass., school committee has voted not to reelect Victor McDonald as principal of the high school. A misunderstanding as to a leave of absence has arisen. The board recalled Leander Jackson, who had been dismissed three years ago.

—Supt. M. N. Todd of Lawrenceville, Ill., has been reelected for a three-year term, with a gradual increase in salary. Mr. Todd came to Lawrenceville from Murphysboro, where he had directed an elaborate building program.

—Dr. James Lee, district superintendent of schools in New York City from 1901 until his retirement in 1923, died at his home on May 14 of pneumonia. Dr. Lee was 75 years old.

Dr. Lee had been connected continuously with the board of education from 1881 until five years ago. He was a graduate of Rock Hill College in Maryland and Bellevue Medical College.

—Mr. Elmer K. Sexton, assistant superintendent of schools at Newark, N. J., has been given an increase in salary.

—Supt. W. A. Andrews of Buffalo, Minn., has been reelected for a fifth consecutive term.

—Dr. Robert B. Pollock has been elected a member of the board of education at Philadelphia, Pa., to succeed Mr. Thomas S. Boyle, who has become city treasurer.

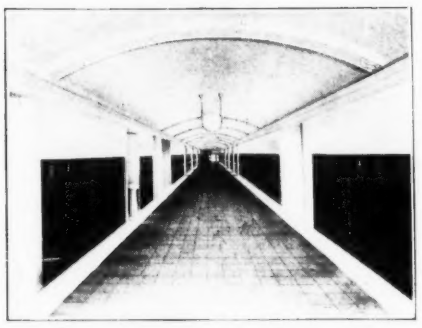
—Mr. Harry E. Ruch has been elected superintendent of schools at Mancelona, Mich., to succeed L. E. Johnston.

—Mr. R. H. Licking of Kewaunee, Wis., has been elected superintendent of schools to succeed W. F. Kruschke. Mr. Licking was formerly assistant principal in the high school.

—Mr. Ernest E. Oertel, principal of the Orestimba Union High School at Newman, Calif., has been reelected for the school year 1928-29, with an increase of $400 in salary, making his salary for the next year $4,000. The increase in salary has been given in appreciation of Mr. Oertel's work in building up a school spirit and creating a better relation between the schools and the community.

DURABILT STEEL LOCKERS

Types and Sizes for all School Requirements



Three Person Lockers Recessed in Corridor.

When selecting locker equipment for a new school, an addition, or for one that is being refurnished or provided with additional facilities — the most satisfactory results will follow only when the correct type and size of locker is installed for each particular storage need.

There are definite types and sizes of Durabilt Steel Lockers for every school use. These illustrations display a few of the many installations that are giving satisfaction in prominent schools in every locality.

Full length clothing lockers provide the maximum storage service. Double tier lockers are handy where floor space is very limited and small pupils are the users.

The recessed type is most practical and popular but where the construction of the building will not permit of recessing, then free standing lockers with either flat or sloping tops placed in corridors, alcoves or separate locker rooms will produce a very satisfactory installation.

The illustration of Durabilt three person lockers shows a unique but practical corridor installation where floor space does double duty. Each section of Box lockers provides a group of nine individuals with separate and secure storage for their hats, books, lunches, etc., while the three adjoining lockers provide space for their coats and other wraps.

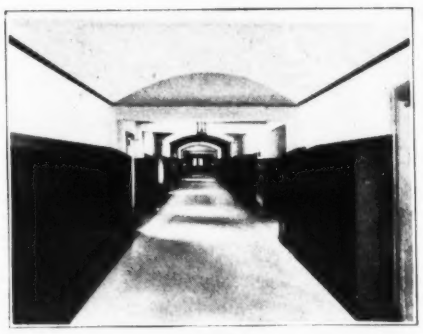
Box Lockers have a wide field of usefulness in schools. They are especially adapted to gymnasiums, classrooms and vocational departments. They admirably fill the need for small storage spaces for shoes, togs, books, tools, and all work materials.

The plate at center below shows how Durabilt double tier lockers are built-in the walls of the gymnasium alcoves, providing handy space for hanging the clothing of students who use the gym. Then, in addition, there is a quantity of small, single tier lockers which form a part of the basket rack enclosure, while the locker tops serve as a handy counter, always available for use.

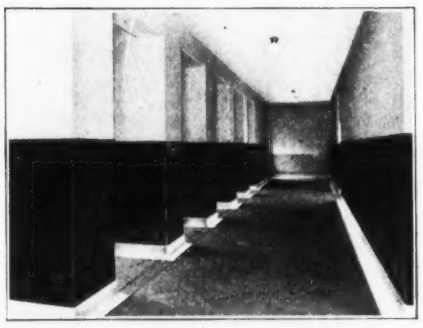
Durabilt Steel Lockers are the choice of thousands of experienced School Executives who are convinced by actual tests that Durabilt products leave nothing to be desired in the way of rugged construction, fine finish, and economical cost.

Now is a very opportune time to order Durabilt Steel Lockers so that the installation will be in readiness in ample time for your needs when school re-opens this Fall. We are ready to assist with your locker problems. Send in your plans and specifications for a quotation; or, if you desire further information send for our complete catalog. Phone our nearest Sales Office or write us at Aurora.

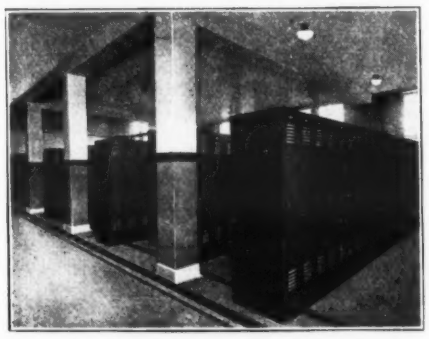
Single Tier Lockers Recessed in Corridor.



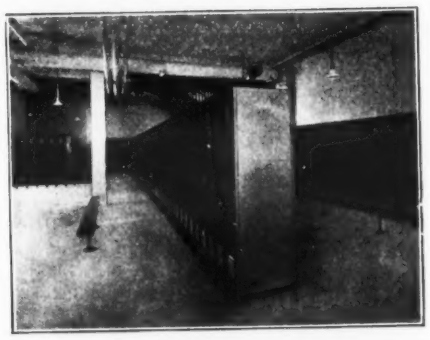
Free Standing Sloping Top Lockers with Metal Base Plates in Corridor.



Single Tier Lockers Recessed in Corridor and Alcoves.

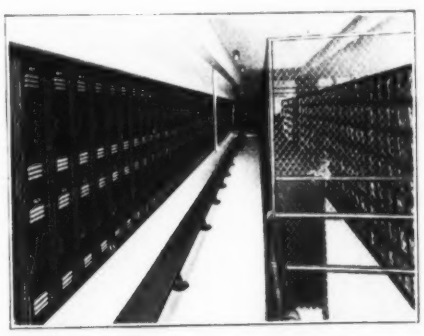


Single Tier, Double Row Lockers with Metal Base Plates in Alcoves.

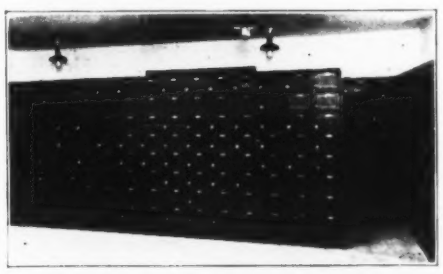


Free Standing, Single Tier, Double Row Lockers in Gym Room.

Box Lockers for Book Storage in Auditorium.



Double Tier and Single Tier Lockers with Basket Racks in Gym Room.



Box Lockers for Togs, Shoes, Etc., in Gym Room.

"No better built than Durabilt!"

DURABILT STEEL LOCKER CO.

400 ARNOLD AVE., Sales Offices in all Principal Cities AURORA, ILL.

All These Advantages

—are to be gained with the installation of Rundle-Spence Vertico-Slant Fountains.

Thirst is satisfied sanitarily. Lips can't touch the R-S nozzle. No chance for germs to hide—no possibility for contamination to arise or spread. R-S Fountains take up little space, check the waste of water, fit into any surrounding, and give continuous service the year 'round.

The R-S line includes Sanitary Drinking Fountains (in models for all school requirements), Bath and Plumbing Fixtures and Supplies. Write for catalog with complete information.

RUNDLE-SPENCE MFG. CO.
51 Fourth St., Milwaukee, Wis.

RUNDLE-SPENCE

C 92

Handsome vitreous china one piece fountain. Combines all the conveniences of the vertical stream with the special slanting stream feature. Glass or cup may be easily filled from it.

C 147

A pedestal fixture of galvanized pipe with extra heavy vitreous china bowl and vertico-slant stream. An extra strong fountain for the playground.

PERSONAL NEWS OF SCHOOL OFFICIALS

—Dean Allan C. Whitney, of the University of Michigan, Ann Arbor, has resigned effective July 1, 1929, and will be on leave next year.

During the absence of Dean Whitney, the school of education will be administered by a committee of three professors, comprising Prof. J. B. Edmonson, Prof. Raleigh Schorling, and Prof. George Meyers.

—President George J. Ryan and Vice-President M. Samuel Stern of the New York City board of education have been unanimously reelected for their seventh consecutive terms. Following his reelection, Mr. Ryan gave a brief report showing the progress of the schools. The city, he said, has 32,669 teaching and supervisory positions. The total school cost at the close of 1927 for sites, buildings, and equipment was $354,282,000. To date, a total of $212,830,114 has been expended for school-building construction.

—Mr. William J. Weber of New York City has been reappointed for a seven-year term on the board of education. Mr. Weber represents the Bronx Borough.

—Mrs. Agnes Williams has been elected a member of the board of education of Union Free School District No. 2, town of Glenville, N. Y., for a fourth consecutive term of three years. Mrs. Williams has acted as clerk of the board for the past eight years.

—Harry J. Mold was elected president of the Mount Vernon, N. Y., board of education. The local newspaper editor says: "It is a good sign when a man of his character and ability can be persuaded to serve us in public position. Men of his caliber tend to make for better administration in government, and there is very likelihood that as president of the board of education he will continue in the same line of endeavor and purpose as he has as a member."

—William J. Weber was reappointed a member of the New York City board of education for a seven-year term by Mayor James J. Walker. Mr. Weber first joined the present board in 1924, when he was named to complete the term of office of Harry B. Chambers, resigned. This was not, however, Mr. Weber's first experience, as he had served as a member of the old board of 46 members. Just after his second appointment, he was given a dinner on February 16, 1924, by 1,000 men and women prominent in the city's civic and educational life. At the dinner, State Commissioner of Education Frank P. Graves told how Mr. Weber had just previously turned down a big-salaried state job "to work gratuitously as a member of the board of education, because he loves New York City and has the highest regard for the welfare of the pupils and teachers of the city." Mr. Graves declared then that Mr. Weber is a prince among men.

—G. R. McWhirter of Colebeek, Ontario, has been elected president of the department of school trustees of the Ontario Educational Association, Canada.

—Dr. B. W. Rowe has been unanimously elected as president of the board of education at Lincoln, Nebr. Dr. B. F. Bailey was elected as vice-president.

—Mr. P. F. King has been reelected president of the school board of New Britain, Conn., for a fifth consecutive term.

—Mr. M. H. Whitlock has been elected as president of the school board of Peoria, Ill., for another year.

—Mr. F. H. Lischke has been elected secretary of the school board at DeBeque, Colo.

—Mr. Edward Merchant has been elected secretary of the school board of Philadelphia, to succeed William Dick, who retires on August 31. Mr. Merchant has been connected with the school board since 1892. He was elected assistant secretary in 1912.

The office of assistant secretary will be filled by Mr. Thomas A. Hughes, who has been connected with the administration department since October, 1896. For a number of years he has held the responsible position of warrant clerk, handling the problem of teachers' salaries and interpreting the regulations of the board regarding salary increases, classification, etc.

—Mrs. F. E. Wieman has been reelected as president of the school board at Washburn, Wis. Mr. Henry Ford has been elected vice-president.

—Mr. William A. Gergen has been reelected as secretary of the school board of Beaver Dam, Wis.

—Mr. Percy Talbot has been reelected as president of the school board at Berlin, Wis. Mrs. H. M. Safford has been elected vice-president.

—Mr. George J. McBride of Highland Park, Ill., has been reelected president of the Deerfield-Shields township school board at Highland Park.

—Mr. C. W. Bingham and Mr. A. H. Sanford have been reelected as members of the school board at Larchmont, N. Y., for terms of three years each.

—Mrs. A. D. Ryckman has been elected president of the school board of Oshkosh, Wis., for the coming school year.

—Dr. Grace Gardiner-Smith has been reelected as president of the board of education at Red Wing, Minn.

—Dr. N. T. Ziglinski has been reelected as president of the school board at Manitowoc, Wis.

—Mr. W. F. MacGregor has been unanimously reelected as president of the board of education at Racine, Wis.

—Mr. H. W. Caldwell, Mr. J. A. English, and Mr. J. A. Heminway have been reappointed as members of the Chicago board of education by Mayor Thompson.

—Dr. J. D. Humphrey has been reappointed as president of the school board at Huntsville, Ala. Dr. Humphrey has devoted much of his time to schoolwork during the past three years, and his efforts in behalf of the new high school were recognized with the presentation of a silver loving cup.

—The position of supervisor of buildings and grounds has been created at Springfield, Mo., with the appointment of Mr. W. H. Ipsen to fill the office. As supervisor of buildings, Mr. Ipsen will have charge of the work formerly performed by the building committee and the superintendent of schools.

—Mr. W. A. Smith has been reelected as president of the board of education at Oconto, Wis.

—Mr. Herbert J. Forsberg has been elected clerk of the school board at Duluth, Minn., to fill the unexpired term of the late Mr. Bronson.

—At the annual school meeting of District No. 2, town of Geddes, Solvay, N. Y., President R. E. Porter and Frederick H. Darrow were reelected without opposition, for terms of three years each.

—Mr. Henry D. Fearon has been reelected as president of the board of education at Oneida, N. Y.

Two Months and School Opens

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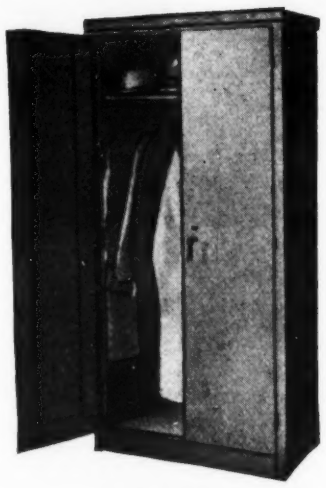
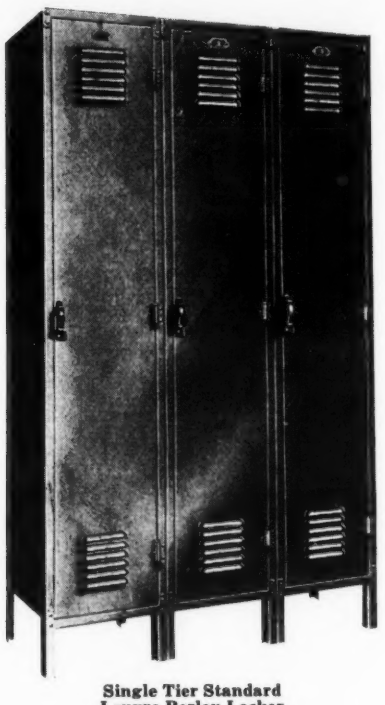
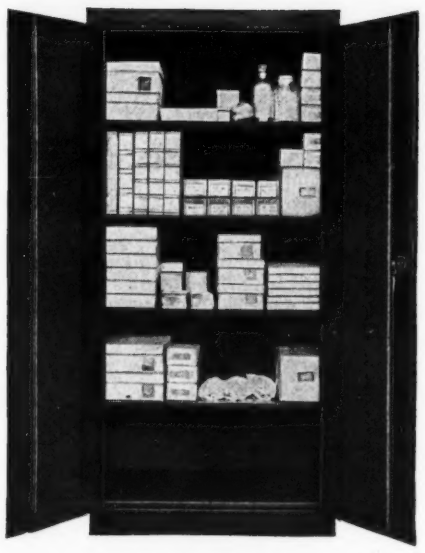


Berloy Wardrobe
Cabinet No. 8561



Single Tier Standard
Louvre Berloy Locker



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SCHOOL ADMINISTRATION NOTES

THE BUDGET AND PAYROLL SYSTEM AT GARY, IND.

Mr. A. H. Bell, auditor of the public-school system at Gary, Ind., speaking at the recent Ohio educational conference, described how Gary administers its budget and payrolls. He emphasized that the 13-months-to-the-year plan had been adopted years ago, and declared that it had proved successful in saving time and effecting greater efficiency in handling the financial work of the city schools.

In explaining the Gary method, Mr. Bell described the division of the year into thirteen months of 28 days each. These thirteen months are again divided into 26 pay periods, with payment of school employees every 14 days.

The schedule for the present school year is as follows: Period one, August 1 to August 20, 1927, 20 days; periods 2 to 25, inclusive, August 21, 1927 to July 21, 1928, 24 of 14 days each; period 26, July 22 to July 31, 10 days.

This accounts for the 366 days of the school year. The first and last period are not uniform, period one being given days sufficient so that period three begins with the beginning of the regular term, the Sunday preceding the first Monday in September. Period 26 includes all days in July after the close of the 25th period, which, together with period one, constitutes 28 days, plus one extra, to make 365 days for the year, and in leap year, two extra days.

The advantage of the system is that of uniformity of payments which make it possible to make up an addressograph plate for each employee, thereby expediting the issuance of pay checks. It has the further advantage of making possible more accurate comparisons between one accounting period and another.

For the purpose of illustrating the Gary school-budget procedure, Mr. Bell used the academic section in the regular form, pointing out how estimates are compiled. Expense items of past years are summarized and in columns following the respective amounts are the per-pupil calculations as well as the amounts per each 100 pupils' hours, Mr. Bell said.

Taking the academic section in analyzing the cost, Mr. Bell explained that expenditures for the last eight-year period have increased from $168,478.69 to $419,421.12. This increase can be explained properly only by the unit basis, he said. Mr. Bell said it is seen that the unit figures vary only slightly, while the total amounts show an increase of almost 150 per cent.

"We are in a position to prove to any protesting taxpayer," said Mr. Bell, "that our expenses are increasing only in proportion to increased enrollment.

"The color system is used to distinguish our different payrolls with a check of a color to match," Mr. Bell continued. "This system has advantage. An employe receiving checks for services performed in different organizations is in no way confused, but knows just what each check is for. It also facilitates the numerical classifications of cancelled checks returned from the bank, as they can first be classified by color and are thereby classified to a considerable degree by this alone.

"Any budget-control system to be effective must be administered efficiently. The procedure must be continuous. By this I mean, items must be handled with dispatch in an orderly way and in no case is work to be permitted to pile up. Checks are not issued until the payroll is completely analyzed and in a position to be posted immediately to the various appropriation accounts.

"At this time our expenses are posted against appropriations for the first eight months of the school year 1927-28, enabling the determining of the appropriation balances in only a few moments. Furthermore, the detailed budget analysis is completed up to March 1. As the first eight months of the school year contain probably 85 per cent of the year's expenditures, other than personal service charges, it is readily seen that we are in excellent condition for compilation of the 1928-29 budget."

Figures introduced by Mr. Bell showed that on the academic section division of instruction, the per-capita cost per pupil is $25.789, the average over the last eight-year period. While the cost of this section has increased nearly four times, the per capita on each pupil remains virtually the same each year, which is proof that the increase in the budget is manifest only when there is a larger number of students enrolled.

INDIVIDUAL VS. MASS EDUCATION

We are told, and very truly told, that no two children are alike. Reasoning from this premise, the conclusion is drawn by not a few that mass education as we have known it in the public schools simply represents the stone age in our development of formal education. Not infrequently the claim is made by patrons and educators alike that if we so shaped our school organization as to respect these individual differences among children there would be no failures in our public schools. This will be readily recognized as analogous to the claim that if our courts but ascertained the physical, mental, and moral abnormalities of each perpetrator of crime that is brought before them, the state would become in all cases a tender guardian rather than an agent for the infliction of punishment. In each instance it is the voice of the extremist. Such arguments apparently eliminate from all consideration a sine qua non of civilization—human responsibility. They ignore the fundamental consideration that failure and punishment alike are oftentimes essential processes through which a corrective can be found for self-indulgence, lack of industry, dishonesty, and the like.—Herbert Seeley Weet, Superintendent of Schools, Rochester, N. Y.

THE COST OF HIGH-SCHOOL INSTRUCTION IN NORTH CAROLINA

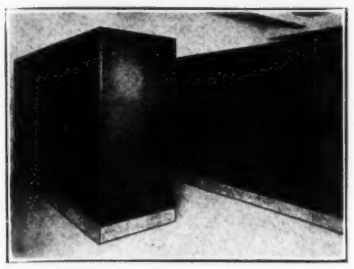
The North Carolina Department of Education has issued a report showing the cost of high-school instruction in the schools of the state. The study which is based on statistics pertaining to 622 high schools for the school year 1926-27, together with comparative figures taken from the studies of previous years, concerns itself with the cost of instruction in the white high schools of the state.

The report shows that in 1926-27, it cost an average of $6.99 a month to instruct each pupil enrolled in high school, 3 cents more than it cost in either 1924-25, or 1925-26, and 49 cents more than it did in 1923-24.

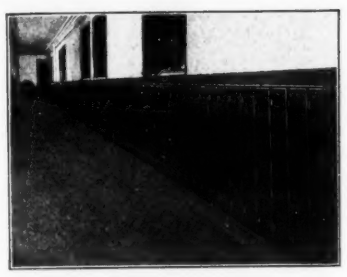
(Continued on Page 123)

FEDERAL-NORWEST

Steel Lockers

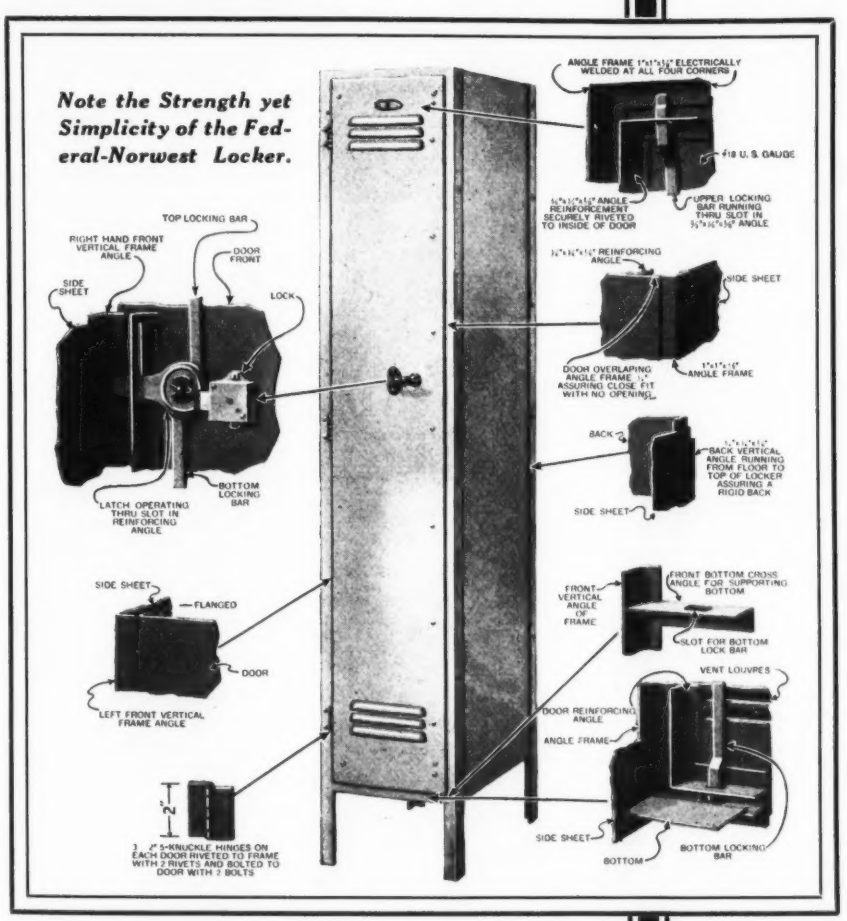


Double Row, Double Tier Federal-Norwest Lockers on sanitary concrete base. For grade schools, etc.



Federal-Norwest Recessed Lockers—an economical space-saving arrangement — doors flush with walls.

"Kansas City" Federal-Norwest, "Gym" Basket System for self, group or for attendant service.


ANGLE FRAME 1"x1"x1/8" ELECTRICALLY WELDED AT ALL FOUR CORNERS
#18 U. S. GAUGE
UPPER LOCKING BAR RUNNING THRU SLOT IN ANGLE
REINFORCEMENT SECURELY RIVETED TO INSIDE OF DOOR
REINFORCING ANGLE
SIDE SHEET
DOOR OVERLAPING ANGLE FRAME ASSURING CLOSE FIT WITH NO OPENING
ANGLE FRAME
BACK
BACK VERTICAL ANGLE RUNNING FROM FLOOR TO TOP OF LOCKER ASSURING A RIGID BACK
SIDE SHEET
FRONT VERTICAL ANGLE OF FRAME
FRONT BOTTOM CROSS ANGLE FOR SUPPORTING BOTTOM
SLOT FOR BOTTOM LOCK BAR
VENT LOUVRES
DOOR REINFORCING ANGLE
ANGLE FRAME
SIDE SHEET
BOTTOM
BOTTOM LOCKING BAR
TOP LOCKING BAR
RIGHT HAND FRONT VERTICAL FRAME ANGLE
DOOR FRONT
SIDE SHEET
LOCK
BOTTOM LOCKING BAR
LATCH OPERATING THRU SLOT IN REINFORCING ANGLE
SIDE SHEET
FLANGED
DOOR
LEFT FRONT VERTICAL FRAME ANGLE
3 2" 5-KNUCKLE HINGES ON EACH DOOR RIVETED TO FRAME WITH 2 RIVETS AND BOLTED TO DOOR WITH 2 BOLTS

Note the Strength yet Simplicity of the Federal-Norwest Locker.

Years of Experience Have Taught Us How to Build *"Lockers That Last"*

You undoubtedly know of school locker installations that have been bought "on appearance." You are aware that this is usually a costly mistake. That is why Federal-Norwest Steel Lockers are sold strictly on a "performance" basis.

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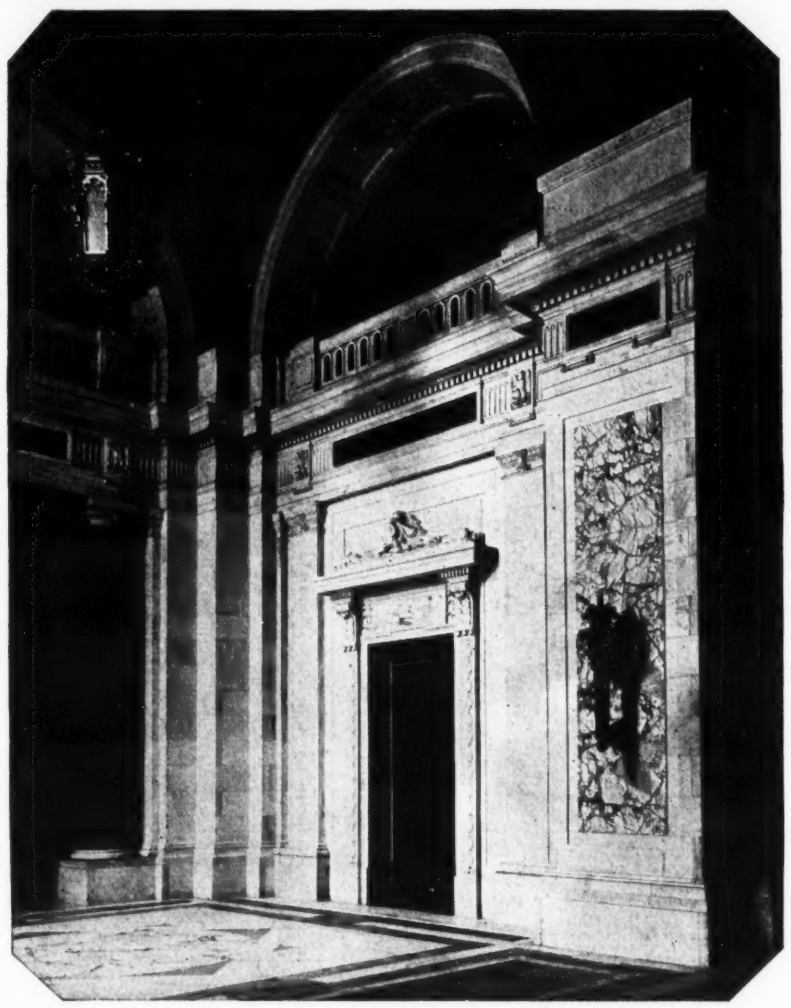
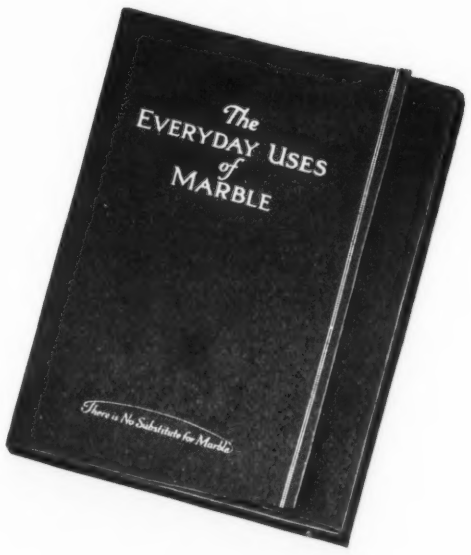
Nature Creates its Value



SCIENCE has not been able to duplicate marble either in beauty or quality. The failure of imitations readily evidences this condition.

Real marble has a vitality, a depth of surface, that is unmistakable . . . a liveliness of color and veining that no man-made medium can even approach.

Real marble, because of its distinctive appearance, durability and ultimate economy, has always been . . . and will continue increasingly to be . . . the preferred material for the interior finish of buildings of a better character.



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A classroom in the Robert Oakman School at Fordson, Mich. It is daylighted and ventilated by Lupton Steel Windows which are installed throughout the building. H. J. Keough, Architect, Malow-Barry Co., Contractors

DAVID LUPTON'S SONS COMPANY 2205 E. Allegheny Ave., Philadelphia

Lupton STEEL Windows

(Continued from Page 120)

On the basis of the average daily attendance, it is shown that the per-capita cost of instruction is $8.22, or 14 cents less than in 1924-25, and 38 cents more than it was in 1923-24. Two main factors enter into the cost calculation; namely, number of pupils, and salaries of teachers and pupils. Stated in different terms, the teaching load (number of pupils per teacher), and the average monthly salary of the teachers, determine the monthly per-capita cost of instruction. The per-capita cost of instruction on the attendance basis has not increased in proportion to the increase on the enrollment basis, for the reason that the teaching load has not had the same rate of increase.

The report also shows that the average monthly salary of teachers and principals has increased from $153.66 to $157.94. In the light of the increase in the training of the average teacher, this is a normal and legitimate increase. In 1923-24, the index of training of high-school teachers was 745.7; in 1926-27, it was 761.2, or 15.5 points higher.

The average monthly salary paid teachers and principals is $168.47 in city schools, and $151.50 in rural schools. Since the city teacher is paid on an average of 16.97 more per month than the rural teacher, the cost of instruction is greater in the city schools. It is also shown that the cost of instruction is greater in the city schools on the basis of the enrollment, and greater in the rural schools on the basis of attendance.

It was noted that the better attendance in the city schools is responsible for the shifting of the larger cost to the rural schools when attendance is used as the basic factor. In the city schools, 87.1 per cent of the high-school enrollment is in average daily attendance, whereas in the rural schools an average of 83.6 out of every 100 enrolled pupils attend high school daily.

It has been found that an average of 18.2 pupils to each teacher employed attend school daily in the rural schools, whereas in the city schools, there are 20.9 pupils per teacher in average daily attendance, a difference of nearly three pupils. This fact has made the average rural cost larger than the city cost, even though the average salary paid the teacher in the rural schools is less than it is in the city schools.

In the city groups there are thirteen high schools in the eight largest systems. The cost of instruction in these high schools is $7.66 a month for each pupil enrolled, and $8.84 a month for each pupil in average daily attendance. The highest average cost is found in this size school, largely because the highest monthly salaries are paid the teachers and principals in those schools. Again, there are more principals and supervisors of special subjects in these schools, an average of one to every seventeen teachers.

The lowest cost of instruction is found in the third group of cities, an average of $7.30 a month on the basis of pupils in average daily attendance. The average size of this group of cities is thirteen teachers. It is significant that in this size of school, the average training of the teachers and principals is slightly greater than in any other group. The lower cost is accounted for by the fact that the average salary of the teachers and principals is $160.20 a month, which is smaller than the two other city groups. This cost is smaller than the rural systems because there are a larger number of pupils in average daily attendance to each teacher employed.

The cost of instruction in rural high schools is highest in the four schools of Vance county. It cost an average of $13.16 a month to give instruction to each pupil in average daily attendance at these schools. The high cost is due to the combination of a small number of pupils in attendance per each teacher and principal employed, and a relatively large monthly salary paid the teachers and principals. Then, too, each of the four schools is small and each has a principal paid an average of $251.56 a month.

As a rule, it is noted that as the number of pupils per teacher employed increases, the cost per pupil decreases. Or, if the number of pupils per teacher decreases and the average salary of the teacher increases, the cost increases. In other words, the high or low cost in any particular school unit is due largely to the teaching load, and to the salaries paid the teachers and principals. The scholastic training of the teachers affects the cost only indirectly, since practically all high-school teachers have between three and four years' training. Only two units have an average training of less than three years of college.

A similar situation obtains in the city schools. Only two city schools have outstanding high costs —Asheville and Roanoke Rapids. In both these systems, the average number of pupils in attendance per teacher is low, and the average salary per teacher is relatively high. In the remaining city schools studied, the cost of instruction ranges from $5.05 a month in Smithfield, to $9.48 in Greensboro.

On the basis of the results obtained, it seems economical to establish larger administrative units in the rural systems, and to require more pupils in average daily attendance for each teacher employed. By increasing the number of pupils per teacher, a still greater reduction may be made in the per-pupil cost of instruction.

THEORY AND PRACTICE

No big business concern would place at its head a person who is well grounded in theory only and lacking in practical experience in the business from the ground up. The principalship, like that of other managerial positions requires that the occupant, in order to be properly fitted, must have had practical experience in every department of the work he is to administer and supervise.—Herman Hirsch, Crockett School, San Antonio, Texas.

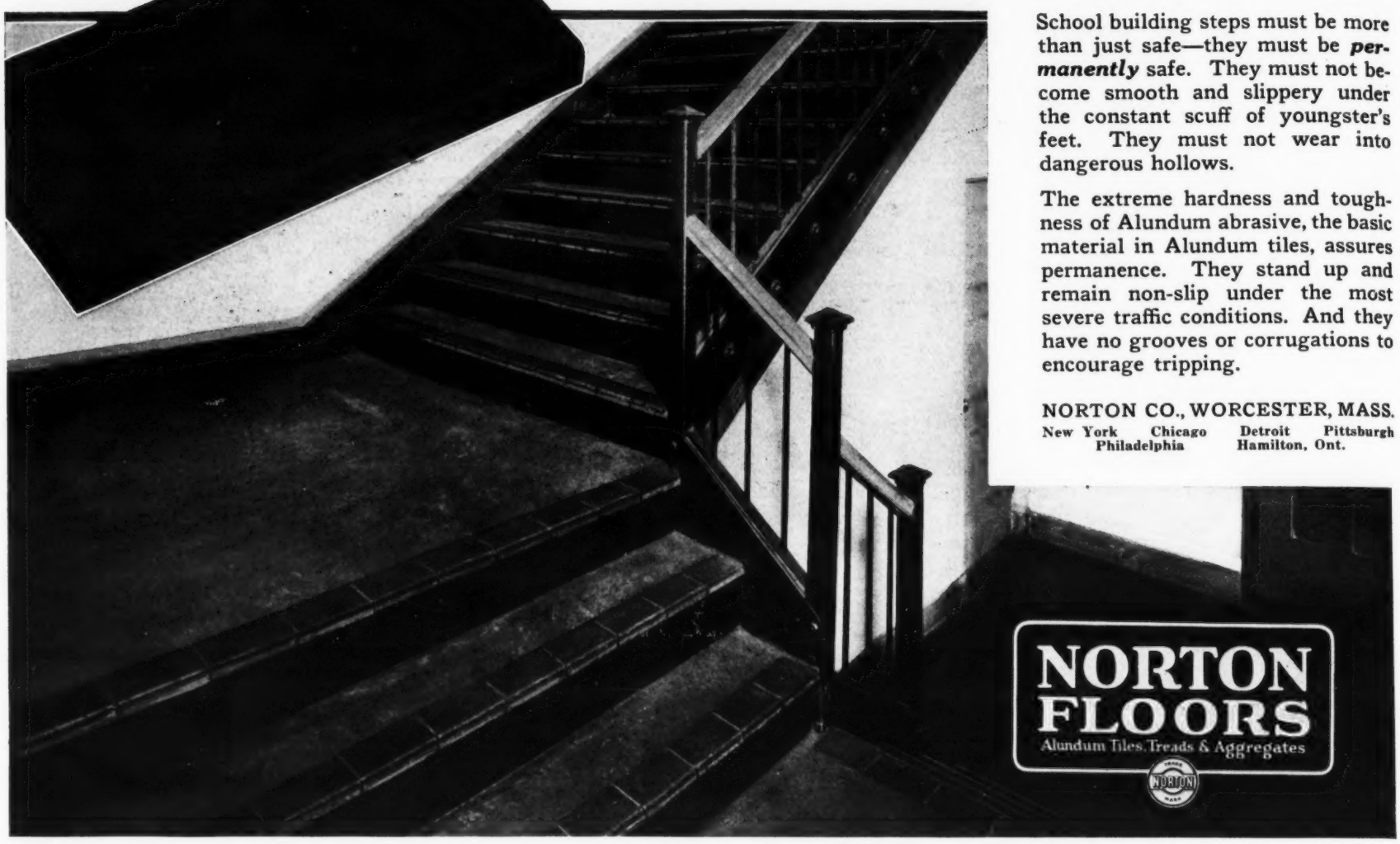
ADMINISTRATION NOTES

—New York, N. Y. Mr. E. A. Nifenecker, director of the Bureau of Reference, Research, and Statistics, in a report to the teachers' council on May 11, declares that the age-grade-progress reports are of great value to the school system. It appears the teachers' council had recommended that the progress tables be discontinued, on the ground that the record cards and other reports are sufficient. Dr. Nifenecker said he had not seen any member of the committee which drew up the report challenging the necessity of the data which the teachers send in each term.

—Lawrenceville, Ill. A revision of the course of study is in progress, under the direction of Supt. M. N. Todd.

—Midland Schools, in an editorial discussion of school propaganda, points out that school people might consider it a compliment to the efficiency of the schools that outside organizations often seek to use the schools for putting over their own programs. Many times such organizations have a worth-while program to promote, which may even be educational in its nature. But, if a school is open to all these influences, the local control of the school is eliminated and no time is left for the real work of education.

Permanently Safe



School building steps must be more than just safe—they must be ***permanently*** safe. They must not become smooth and slippery under the constant scuff of youngster's feet. They must not wear into dangerous hollows.

The extreme hardness and toughness of Alundum abrasive, the basic material in Alundum tiles, assures permanence. They stand up and remain non-slip under the most severe traffic conditions. And they have no grooves or corrugations to encourage tripping.

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Recently, proof has come that certain organizations are trying to place their hands on the commencement program. An open letter illustrating this from a well-known national organization came to the editor's desk with the request that it be given publicity through the columns of the paper.

The idea was that the commencement program include a scientific discussion of the work of William Harvey on the circulation of the blood. What a fine program that would be—ancient history, plus modern science, presented to the audience in a modern scientific way. Parents of these seniors, who had sacrificed much to keep the students in school and to reach this day of graduation, are asked to give attention to a dry talk on ancient history. The students of the school, after twelve years of steady grind, obliged to listen to a labored discussion of a scientific subject.

A graduation event is both a celebration and a farewell party. It is a time of inspiration, of appreciation, and of friendly interest. To intellectualize the occasion entirely is the best way to kill it. Local autonomy should prevail and no outside organization whatever should be permitted to cajole or to coerce the school into providing any particular kind of program on such an occasion.

—Supt. C. A. Duvall of Solvay, N. Y., at the May meeting of the school board, was extended a vote of confidence. The budget was adopted without a dissenting vote and his recommendation for a new school site was approved unanimously. It was a real tribute to a real man.

—The New York state subcommission on the causes and effects of crime has completed a study of 201 truants selected from a group of school truants in Manhattan Borough, New York City.

In the study, it was found that a large proportion of the pupils were from broken homes, that many of the fathers were unskilled laborers, and that parental control was lacking. Only 38 of the 201 truants had delinquency records, but the commission felt that persistent truancy has an important bearing upon delinquency, because it encourages an antisocial attitude in the child through bringing him in conflict with the compulsory-education system.

—Supt. I. O. Winslow of Providence, R. I., in a recent statement on "The Value of Education as Indicated by Success or Failure in Schoolwork," pointed out that failure of pupils in schoolwork often causes a wrong tendency.

According to Mr. Winslow, when a pupil is unable to understand the subject, or is unprepared to recite it correctly, either because of indifference, negligence, or the lack of ability, he loses confidence in himself, and the accumulated effect, as the result of repeated failure, is liable to produce a tendency that means the difference between success and failure through life.

Some parents, he said, in their thoughtlessness about the evil effects of failure, are inclined to claim the right to determine where their children shall attend, and whether they shall repeat work in which they have failed. It is the duty of public-school officials, says Mr. Winslow, to see that the public money is properly expended for the best results. They must regard it as their duty to decide whether a pupil shall be permitted to continue or to fail in his lessons or to repeat a subject in which he has been unable to succeed.

Educators of the present have come to recognize the value of classifications of pupils according to differences in ability, in order that successful work may be possible. It is of greater educational value

(Continued on Page 126)

PUBLIC SCHOOL No. 44, STATEN ISLAND, N. Y.

THE NATION'S BUILDING STONE

Thaddeus Stevens, Jr., High School, Williamsport, Pa. Guilbert & Betelle, Architects.
A good example of the use of Indiana Limestone trim in connection with brick.

Attractive Without Being Costly

THE architects of the fine school building shown here have secured a decidedly attractive result through the skillful use of Indiana Limestone trim in the walls of this brick structure. The stonework is sufficiently ornamental to be impressive and gives distinction to the building, yet in no sense can it be called costly. Indiana Limestone is so moderate in cost that today in school architecture there is more and more a trend toward all-stone facing. New methods of using this fine light-colored natural stone are continually being developed by architects, making all-stone faced schools entirely practicable from the standpoint of cost. The absence of exterior upkeep expense makes such construction a genuine economy in the long run. In considering your new building, why not have before you examples of other modern school buildings in which beauty has been combined with utility at low cost through the use of Indiana Limestone? We will gladly send you free our illustrated booklet on school and college buildings showing many examples. Write for it now. Our booklet shows many examples of school buildings faced entirely with stone, as well as examples of structures built of brick with Indiana Limestone trim, which latter construction may be said to be practically standard for school buildings in this country today. For the free booklet, address Dept. 780, Service Bureau, Bedford, Indiana.

Detail View of Thaddeus Stevens, Jr., High School

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As a start on A-S-E COMPLETE Service let us send you our C-25 locker catalogue. It shows the many types of lockers which we can supply.

(Continued from Page 124)

to do a little successfully than to fail in the attempt to do much. The practice of striving for sufficient differentiation in schoolwork that can be offered will render it possible to provide pupils of all grades of ability with subjects and activities in which they are able to succeed.

—New York, N. Y. The board of education has approved a request of the board of superintendents that the teachers and alumni of Erasmus Hall High School be permitted to install a memorial window in the school. The window is to be erected in memory of Mr. Allen B. Doggett, who was for many years a teacher of art in the school.

The board has also given permission for the installation of a mural decoration on the walls of the auditorium of Public School No. 60, in Bronx Borough. The sketch, which has been approved by the art committee, consists of three decorations, two of which have already been placed.

—The board of education of Lynn, Mass., has adopted a rule that all teachers in the employ of the school system must within a period of twelve months become citizens of Lynn. One of the local newspapers asks: "Why the necessity for any such action? The condition which the school board now finds incompatible with its desire to furnish Lynn employment to Lynn persons has been the same in Lynn for many years. It was a known fact that Lynn school boards would not look with favor upon Lynn aspirants for positions on the teaching staff of Lynn schools. It was common for a girl to be given the advice, "Go out and get experience and then apply here." Now there comes a sudden change in the attitude of the school authority, and instead of that, the board says to its staff, "Live in Lynn or lose your jobs."

—Seventy-one per cent of the pupils in the New Haven, Conn., public schools are children of foreign-born parents who are natives of 48 different countries. Of the whole number 52.8 per cent are Italian, 18.4 per cent are Russian, and 5.3 per cent are Polish.

—The proposal made by the school board of Lynn, Mass., to introduce some form of religious instruction in the schools has been submitted to the clergy of the city who are to agree upon a plan acceptable to all of them.

—The United States Bureau of Education reports that the number of men entering the profession of teaching is increasing. The per cent of male teachers in the public schools of the United States, in 1880 was 43; in 1890, 34.5; in 1900, 30; in 1910, 21; in 1920 it had fallen to 14 while in 1926, it was 17.

—The American Library Association, at its annual meeting held on June 2, at West Baden, Ind., elected the following officers: President, Miss Linda A. Eastman, Cleveland, Ohio; first vice-president, Mr. Malcolm G. Wyer, Denver, Colo.; second vice-president, Miss Harriet A. Wood, St. Paul, Minn.; treasurer, Mr. M. S. Dudgeon, Milwaukee, Wis.

The members of the council elected at the meeting are: Miss Edith M. Coulter, University of California, Berkeley; Miss Jennie Flexner, public library, Louisville, Ky.; Mr. Paul M. Paine, public library, Syracuse, N. Y.; Miss Bessie S. Smith, public library, Cleveland, Ohio; Mr. Forrest B. Spaulding, public library, Des Moines, Iowa.

—The school district of Fairmont, Minn., is bonded for more than $1,000,000. A proposition by the board of education to enter upon a $300,000 bond issue to replace three old structures with new school buildings is being opposed on the plea that the taxes are already too high and that the improvement is not an imperative necessity.

—Easton, Pa. The school board has adopted a budget amounting to $1,018,190 for the school year 1928-29. Of this amount, $774,690 must be raised by taxation. The largest amounts in the budget are $488,000 for the expenses of instruction, $120,000 for capital outlay, and $176,194 for debt service. The total estimated receipts amounted to $243,500, while the total expenditures amounted to $1,018,190.

PUBLIC-SCHOOL CHILDREN OF NEW YORK CITY CELEBRATING THE COMING OF THE MAY IN CENTRAL PARK. (Wide World Photo.)

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TWENTY-FIVE YEARS OF PIONEERING & LEADERSHIP

Truscon is an institution of national scope, the largest company of its kind in the world, manufacturing a complete line of steel products for permanent construction.

STEEL WINDOWS for better daylighting and ventilation. Specially developed types for School requirements.

REINFORCING STEEL in keeping with individual designs and conforming to a standard practice.

STEEL JOISTS, all types for an economical fireproof floor construction.

METAL LATH for permanent, crackproof plaster walls and ceilings. A complete line of Plastering Accessories.

STEELDECK ROOFS, I-Plates, lightweight, permanent, insulated to prevent heat loss, and waterproofed.

STRUCTURAL STEEL for every kind of building design incorporating the most modern methods.

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SCHOOL BOARD NEWS

—At Oakland, Calif., a radical change has been made in the athletic policy of the schools. In the future, there will be no scholastic competitions by other than unlimited teams. Intramural competition will be substituted for interschool competition between teams. Interschool competition in football, basketball, baseball, and track for the unlimited teams are not affected by the change.

Under the new system, each boy in school will be able to obtain a block letter and athletic efforts will be stimulated among the students.

—Boyertown, Pa. The school board has set a new age limit for the kindergarten pupils. Begining next term, all children of the kindergarten who have reached the age of 6 years, prior to April, 1929, will be promoted to the first grade. All children reaching the age of 5 years prior to April 1, 1929, will be admitted to the kindergarten.

—LaCrosse, Wis. Eight schools will be opened for summer sessions during the vacation months. No classes will be conducted below the third grade this summer.

—Brockton, Mass. The school board has announced that nonresident students will not be admitted to the high school during the next term because of overcrowded conditions in the school. It is anticipated that approximately 3,000 students will be enrolled during the fall term.

—Ionia, Mich. The school district faces some drastic changes in the time and conduct of its annual election under the new Michigan law. Among the changes required by the law are an increase in the number of directors from five to seven; an extension of the period of service from three to four years; a change in the date of the annual election from July to the second Monday in June, and provision for the general registration of the school electors. All of the changes will go into effect this year.

—Duluth, Minn. The school board has ordered an investigation of the number of high-school students belonging to an alleged communist organization, following reports that a large number of students were members of such a body.

—Minneapolis, Minn. The board of education has taken steps to secure a loan of $500,000 to meet the teachers' payroll. Up to the present, the total loans of the board for the year amount to $1,500,000.

—New Britain, Conn. The school board at a recent meeting, devoted some time to a discussion of insurance problems. The board has approved a recommendation of Mr. W. H. Day, who made a study of the insurance problem, that the rate of the underwriters be accepted. Under the proposed blanket plan, which covers all buildings and contents, an 80-per-cent clause applies to the insurance on buildings, and 90 per cent to the contents, at $.253 on a yearly basis, or $6,325 for three years. The acceptance of the plan means a saving to the city of $5,600 a year, because of

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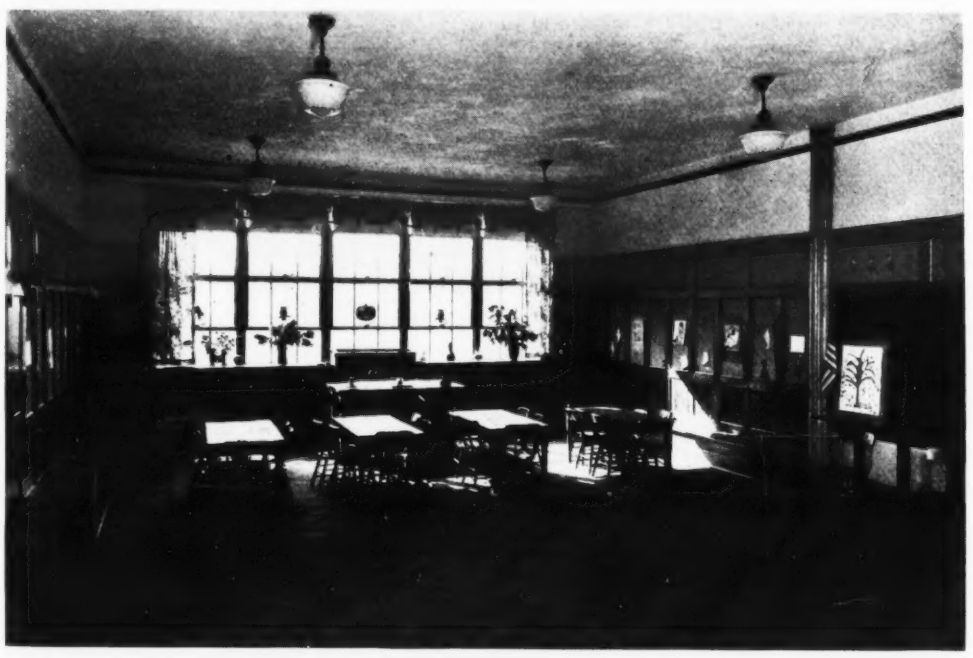
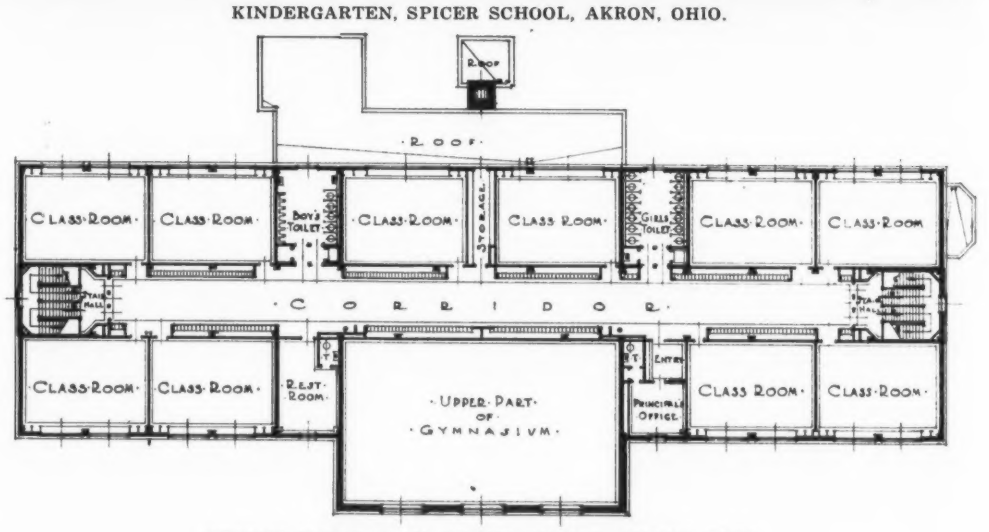
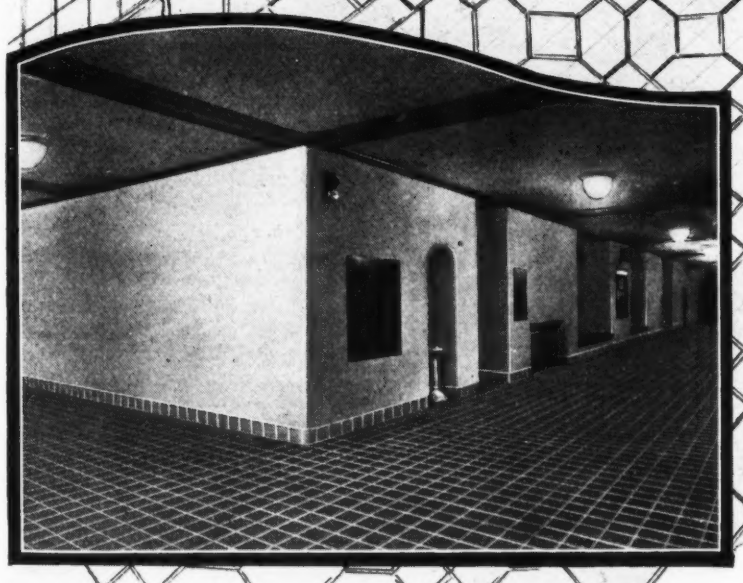


KINDERGARTEN, SPICER SCHOOL, AKRON, OHIO.



SECOND FLOOR PLAN, SPICER SCHOOL, AKRON, OHIO.
M. M. Konarski, Architect, Akron, Ohio.

Main entrance and corridor, Benjamin Franklin School, Cleveland, Ohio. W. R. McCornack, Architect for Cleveland Board of Education. Wadsworth-Addison Co., Tile Contractors, Cleveland.



Main corridor on second floor, Onaway School C, Shaker Heights, Ohio. Charles W. Bates, Architect, Cleveland. Mechanically Applied Products Co., Tile Contractors, Cleveland.

Corridor, Willard School, Highland Park, Michigan. Butterworth and Butterworth, Architects, Detroit. The Netting Co., Tile Contractors Detroit.

Permanently Pleasing Floors and Wainscots

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Border No. 2502

INSTRUCTORS know the value of bright, cheerful school buildings, and how they make teaching easier by providing stimulating, homelike surroundings. They know that the environment has a marked effect upon impressionable young minds.

With Romany Tiles on floors and wainscots of corridors, entrances, lavatories, in fact wherever the wear is hardest, an atmosphere of colorful charm is created. The building attains a personality of its own.

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Whenever low initial cost, beauty, unquestioned durability, extremely low cleaning expense and sanitation are equally important factors, Romany Tiles stand alone among desirable floor and wall surfacing materials.

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HALSEY TAYLOR
DRINKING FOUNTAINS

Illustrated is No. 605, a beautiful wall-type, one of many popular school models.

No danger of infection!

No unsanitary bubbler, no vertical stream, no breeding place for germs. Instead a *practical side-stream* with the water always at uniform height regardless of pressure variation—and without the necessity of lips touching source of supply! That in brief describes Halsey Taylor Drinking Fountains, with two-stream projector, practical automatic stream control, and positive assurance of sanitation due to many patented features!

Write for your copy of our new 1928 manual for school superintendents and school building authorities!

The Halsey W. Taylor Co.,
Warren, O.

Largest Manufacturers of Drinking Fountains Exclusively

Automatic Stream Control

One of many distinctive Taylor features. Regardless of pressure variations, the stream remains at uniform drinking height. Two-stream projector acts as a further hygienic safeguard!

(Continued from Page 128)

the low rates and the money saved through a sprinkler system in the old schools.

—Under a new rule of the school board at Lynn, Mass., all employees of the school system must become residents of the city within twelve months. Under the rule, the city will have its population increased by 92 persons, while the towns of Swampscott, Saugus, Nahant, Peabody and other nearby towns will be depleted by the same number.

The school roster of instructors lists 137 men and 486 women, a total of 623. Among the 92 instructors who live in other communities than Lynn, are some who were appointed in the schools from 20 to 30 years ago and have been rated highly as educators.

The school board bases its action on the principle that persons regularly employed by the city and receiving pay from public funds should have an active interest in the city's affairs, rather than a payroll interest. The board has allowed all instructors twelve months in which to recondition themselves so far as a home location is concerned.

—Wilkes-Barre, Pa. The school board has awarded contracts for supplies aggregating more than $30,000. More than 200 bids were received for these supplies.

—Detroit, Mich. The board of education has abandoned its plans for a teachers' college and the $610,000 fund set aside for the building will be transferred to the fund for elementary schools. The addition of this amount to the fund brings the year's total for new schools to $2,824,706.

—Fordson, Mich. The board of education has created a department of research and statistics, with the appointment of Mr. Vernon E. Chase as director of the department.

—Lake Forest, Ill. President George J. McBride of the board of education has appointed three members of the parent-teacher association as an advisory council, which will meet with the board at various times to discuss important school problems.

The women appointed are Mrs. Raymond Flinn, Mrs. Robert Seyfarth, and Mrs. William Gourley. The women were present at the last meeting of the board and reported on the matter of purchasing gymnasium clothing.

—Indianapolis, Ind. Mr. Charles W. Kern, a member of the school board, has presented a report to the board in which he points out that cafeteria supplies in the high schools are not being purchased on a competitive basis. In explanation of his statement, Mr. Kern said that the cafeterias are public institutions maintained for the school children, but that they are being run as private enterprises. The pupils, he said, are not getting their lunches at the lowest possible price. In a recent report of the Arsenal Technical Schools it was shown that there was a surplus of between $22,000 and $34,000 from the cafeteria.

—Buffalo, N. Y. Twenty-four school playgrounds will be kept open during the summer vacation, under a recent decision of the board of education. The playgrounds will have full equipment and will be conducted under play teachers, who are regular employees of the board. This is the first year the playgrounds have been maintained on so extensive a plan. In addition to the school yards, the benefits of nine swimming pools will be available.

—Beverly, Mass. The school board has ordered that dancing in school halls be discontinued in all schools where such halls are located above the first floor. Halls located in the first story of schools are not affected by the ruling.

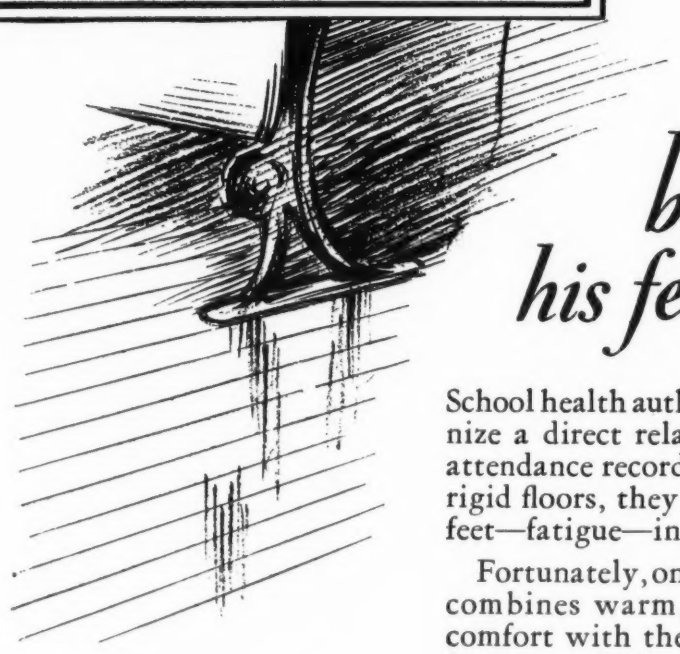
—The schools of Nashville, Tenn., were losers in a recent decision of the court involving a suit against the county and state authorities over the distribution of school funds. The amount claimed by the city as due for the past three years approximates $100,000, with an indefinite sum annually for the future.

The controversy grew out of the refusal of Supt. H. C. Weber of the city schools, to include the summer term established in 1924, in making out the average annual attendance of the schools, as a basis for the per-capita distribution of state- and county-school funds; and the action of Supt. W. C. Dodson of the Davidson county schools, in refusing to receive the computation and instead, certifying to the state authorities an average based upon the entire twelve months.

(Continued on Page 133)

INTERIOR VIEW OF BOOKSTORE, MINDEN, LA.

He never misses a day of school



because the floor beneath his feet is warm, dry, resilient, clean

School health authorities now recognize a direct relationship between attendance records and floors. Cold, rigid floors, they say, mean chilled feet—fatigue—increased absences.

Fortunately, one flooring material combines warm, dry, cushioning comfort with the qualities of lasting wear which school use demands—Northern Hard Maple.

This resilient flooring material is remarkably tough-fibred and tight-grained. It will not sliver or splinter. Scuffing, youthful feet and the moving of equipment simply make it smoother with time. Northern Hard Maple actually outwears stone!

Maple, moreover, because of its permanent smoothness, is exceptionally easy to keep clean. It offers no open lodging places for dust and germ-laden dirt to collect. And it permits quick, simple, permanent anchorage for seats.

Hundreds of schoolboards have been guided by these facts in selecting flooring. They have chosen Maple for schoolrooms, corridors, gymnasiums, assembly halls. Consult your architect about Northern Hard Maple.

Maple Floors in Color

With fadeless penetrating stains recently developed, hard Maple Floors are now made to take a variety of beautiful, lasting color finishes—opening up entirely new possibilities for attractive decorative effects. Standard finishes made only by The Marietta Paint & Color Co., Marietta, Ohio, as follows:

Early American, Spanish Brown, Autumn Brown, Silver Gray, Dove Gray, Royal Blue, Pastel Green, Orchid, Seal Black, Natural.

Write for free booklet, "The New Color Enchantment in Hard Maple Floors."

Let our Service and Research Department assist you with your flooring problems. Write us.

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The letters **MFMA** on Maple, Beech or Birch flooring signify that the flooring is standardized and guaranteed by the Maple Flooring Manufacturers Association, whose members must attain and maintain the highest standards of manufacture and adhere to manufacturing and grading rules which economically conserve these remarkable woods. This trade-mark is for your protection. Look for it on the flooring you use. **MFMA**

Floor *with* Maple

Controlled by Definite Infallible Laws

THE Dunham Differential Vacuum Heating System is controlled by laws as definite as the cosmic forces which govern the earth in its journey around the sun, or which cause to function in harmony the millions of stars comprising the "spacious firmament on high."

Natural laws are utilized in this new Dunham Heating System to produce results that hitherto have been unattainable in any type of heating system. Steam at less than atmospheric pressure and at temperatures considerably below the ordinary boiling point of water, provides comfortable, healthful warmth in every room during the milder days which comprise 95% of the heating season. This modified heat input into the rooms works in harmony with nature's law by balancing the heat input and the heat loss. By correctly utilizing this law, fuel waste from overfiring is reduced and the evils of wasteful window opening are eliminated.

Remarkable fuel economies have been obtained in differing types of installations in various sections of the United States and Canada. For example, in a nine story office building (Chicago) the fuel (oil) cost but $1314.30 for the eight months period from Oct. 1, 1927, to May 31, 1928. A fourteen story apartment building (Chicago) effected a fuel (coal) saving of 295 tons for the heating season of 1926-1927 as compared with 1925-1926, an economy of 27½%. In the manufacturing plant of the Yankee Cake Company, Providence, R. I., during a test period with outdoor temperatures six degrees lower than prevailed when operated as a Vacuum Return Line System, the Dunham Differential Vacuum Heating System produced a fuel saving of 33⅓%.

These facts substantiate the confidence of the nation's leading architects and engineers in specifying Sub-Atmospheric Steam and prove that this new system of heating may well be termed the ultimate in fuel economy, in heating comfort, and in satisfaction.

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DUNHAM BUILDING
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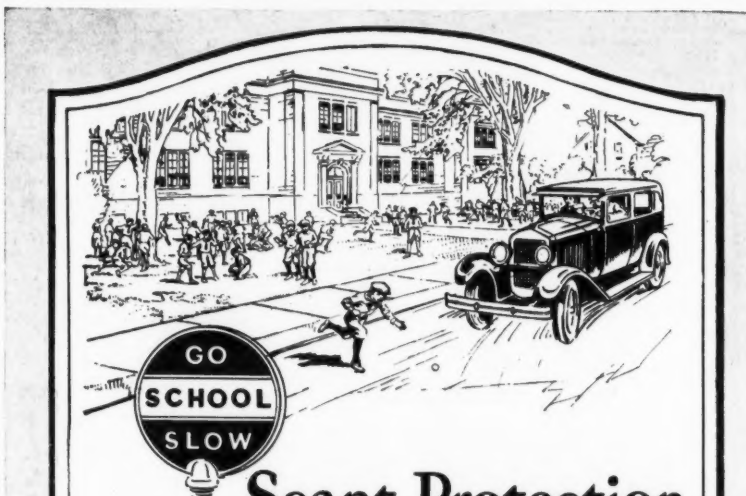
This nameplate identifies a genuine DUNHAM Radiator Trap

U. S. Patent No. 1644114. Additional patents in the United States, Canada, and Foreign Countries now pending.

Over eighty branch and local sales offices in the United States and Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.

HEATING



Scant Protection *for* Playing Children

A warning sign cannot intercept the play-intent child who darts suddenly into a dangerous roadway. Nor can it prevent a hurrying motorist from disregarding the command to GO SLOW.

The responsibility of the community to the child requires that it provide *safe* playgrounds — places where children can give free vent to the spirit of play.

Only the positive protection of a fence will keep children safe on the playground. Only an Anchor Fence possesses the Exclusive Anchor Features which give everlasting service with pleasing appearance.

Anchor Sales and Erecting Service is nationwide. We will gladly have a local Anchor Fencing Specialist consult with you and explain the merits of the Exclusive Anchor Features: (1) U-bar Line Posts; (2) Square Terminal Posts; (3) Drive Anchorage; (4) Anchor-Weld Wire Gates.

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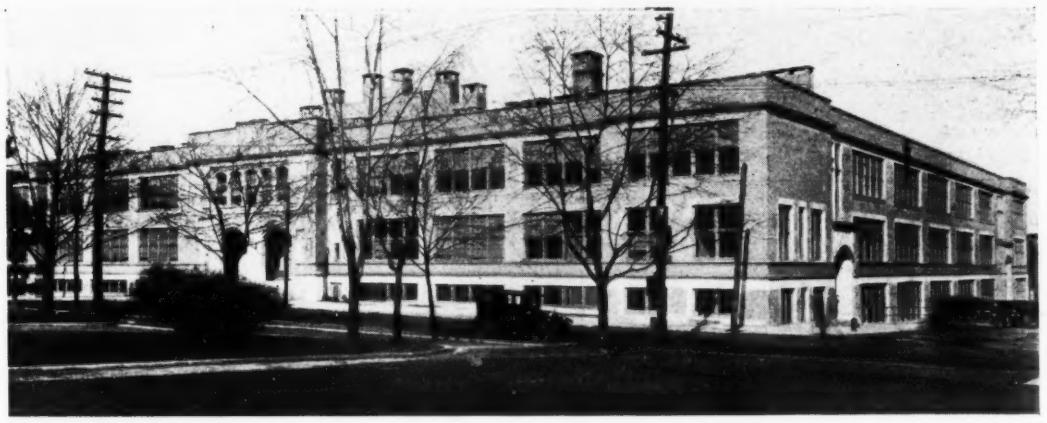
Branch Offices and Sales Agents in Principal Cities

ANCHOR *Fences*

PROTECTION.. strength *and beauty* as well

"BUY THE FENCE WITH THE *STRONGEST* POSTS"



Senior High School, York, Pa.
John B. Hamme, Architect,
York, Pa.

Maintenance Costs Permanently Lowered in York, Pa., Schools

Williams Reversible Window Equipment installed in the Senior High School of York, Pa., appreciably reduces maintenance costs. The choice of Williams Reversible Window Equipment for the Senior High School was based on fifteen years of satisfactory service of Williams Equipment in other York Schools.

With Williams Equipment, both sides of the glass, upper and lower sash, are cleaned from inside the rooms. This is done by the regular janitors, eleminating the high labor cost of professional window cleaners. This saving will continue for the life of the building.

Williams Reversible Window Equipment also assures ample overhead ventilation without draft. The windows may be tilted to any angle allowing full advantage of the entire window opening.

We have been manufacturing and installing Reversible Window Equipment for twenty-five years.

THE WILLIAMS PIVOT SASH CO.

E. 37th St. at Perkins Ave., Cleveland, Ohio

WILLIAMS REVERSIBLE WINDOW EQUIPMENT

(Continued from Page 130)

In the decision, the court sustained Superintendent Dodson of the Davidson county schools, that the summer term must be included in computing attendance, and dismissed the suit of the city schools. It was shown that the average daily attendance in the city schools for the year 1926-27 was 16,977 if only the nine months were considered and the summer term omitted; but, by reason of the small attendance at the summer session, if the twelve months were taken, the average attendance is reduced to 14,756.

—The school board of Greeley, Colo., has awarded a contract to the South Greeley Fuel and Feed Company to furnish 1,400 tons of coal for the school year 1928-29. The prices quoted by the company were $4.95 for industrial nut coal; $4.90 for Columbine lump; and $3.20 for industrial slack.

—The school board of Cleveland, Ohio, will make its final decision shortly on the question of rented quarters for the school administration department. The commissioner of housing has solicited bids from the downtown office buildings and has nine which he will present to the board for approval. The rentals asked by the nine buildings range from $60,000 to $120,000 per year, for 50,000 square feet of space.

—The new board of education of Bazetta township, near Warren, Ohio, has begun court proceedings to compel the old board to turn over to it the books and records belonging to the school district. The controversy between the new and the old boards has seriously delayed the new school project so that it is a question whether the district will have a schoolhouse for the fall session.

—Attorney General W. M. Brucker of Michigan has ruled that school monies may not be deposited in a bank in which the treasurer of the board is interested as a stockholder. The ruling was made at the request of Mr. A. D. Hughes, a member of the board of education at Wayland, Mich.

—At Nokomis, Ill., 150 students of the high school went on strike because the new school board failed to reappoint the principal.

—The school board of Brockton, Mass., has amended the rule governing school physicians, as follows: "It shall be the duty of school physicians to visit the smaller schools in their districts at least once a month, to look after the sanitation, hygiene, and ventilation, and any other matters requiring the attention of the physician."

—At the suggestion of R. H. Davis, the school board of Cleveland, Ohio, has ordered that a search be made for all sorts of propaganda material, and that a report on the use of such material be made. Supt. R. G. Jones stated that nearly all of the 4,000 teachers had gone outside of the classrooms for materials suitable for the use of the pupils. The propaganda search was begun after it was reported that 15,000 copies of "Aladdins of Industry" had been distributed in the schools by the Ohio committee on public-utilities information.

—Newark, N. J. The elimination of the roofing-repair division of the board of education and the substitution of the more costly procedure of letting the work out on contract, appears possible as a result of the controversy between the two local units of the roofers' union.

For a number of years the board has obtained satisfactory work from its roof-repair division, which made the needed repairs as required, at a considerable saving to the school system. Later the union assumed control, and the troubles of the school board began to multiply. The union decided the board needed a slate roofer, and after some discussion, the board discharged one man and employed a slate roofer. The former employee then appealed to the civil service commission, which decided he could do both slate and composition roofing, and they ordered him reinstated. The board is awaiting the protests from the slate roofers.

—The New Jersey Federation of District Boards of Education has pledged itself to a continuation of the fight to prevent inroads upon railroad tax receipts intended for local school purposes. Efforts of the Federation last year, it is reported, resulted in a saving of nearly $2,000,000 for local districts. The saving was effected when it was tentatively agreed that the rail-tax fund need not be used for capital investments.

—Ravenswood, Ill. A suit has been brought in the circuit court by the board of education to restrain the Ravenswood Masonic Temple Association from erecting gasoline tanks on property near one of the schools. The board charges that the tanks will be erected to supply a filling stating on property owned by the association. This is in violation of a city ordinance forbidding gasoline tanks within 300 ft. of a school.

—Kenosha, Wis. The board of education has awarded a contract to the Badger Fuel & Supply Company for 3,000 tons of Eastern Kentucky bituminous coal for heating the schools during the 1928-29 school year. The badger bid of $16,020 for 3,000 tons called for a price of $5.34 a ton, which was the lowest bid of the five firms bidding. The board also awarded contracts calling for an expenditure of more than $6,000 for supplies during the school year.

—Prof. J. H. Hutchinson, of the college of education, Drake University, in a recent study of school law, has found that Iowa school boards have wide discretion in fixing types of misconduct for which suspension or expulsion of students is the penalty.

Professor Hutchinson holds that neither the courts nor other tribunals will reverse a discretionary act of a school board, unless it can be proved that the board abused its discretion granted by law. He notes that cases where expulsion or suspension may ensue are not specifically defined by the Iowa law, but that they cover the general ground of immorality, violation of rules, and cases where the presence of the pupil is a real detriment to the school. The Iowa courts have held that school boards do not have the power to expel for misconduct not covered in the rules and regulations. In one case, it was held that a school board abused its discretion in expelling a pupil for publishing an article outside of school, in which the school board was ridiculed.

Professor Hutchinson holds that school boards must be guided in their right to suspend or expel pupils by the principle that the schools are for the education of children. A pupil who is absent six half days in any consecutive four weeks for avoidable reasons may be suspended. On the other hand, a pupil who accidentally breaks a window, and refuses to pay for it, may not be expelled. It

(Continued on Page 136)

VALUE OF MENTAL HYGIENE

Mental hygiene not only helps the teacher to avoid worry, but more important than this, is the aid it gives in showing the pitfalls that threaten one's own character as a teacher and an integrated personality. It reveals to the teacher the survivals of childish attitudes, envy, jealousy, exaggerated sensitiveness, and all the other childish attitudes that arise from an undue development of the ego complex.—William H. Burnham, Clark University.

The Purification of Water in Swimming Pools

(Concluded from Page 65)

All things considered, the concentration of ozonized air should not be below six milligrams per liter.

By surface exposure we mean the amount of surface of the water that can be exposed to the action of the ozonized air. At first this may seem easily accomplished by increasing the amount of air, but this factor is fixed by the concentration required, together with the quantity of ozone to be used. This factor is a problem of mechanical mixing, for which the so-called emulsifying action of the injector is best employed as a premixer. The design of the mixing column must be such as to offer the best conditions for diffusion after the "emulsified" water and ozone are delivered to it. Space does not permit going thoroughly into these details; it is sufficient to direct attention to them.

Everything requires time: It takes time for a gas to get into equilibrium with water. The size of the mixing column should be such as to afford as much time as possible for the water to take up the ozone, but nothing can be gained by increasing its volume beyond that required for equillibrium between the concentration of ozonized air used and the water at the temperature at which it is obtainable. This we call the contact period.

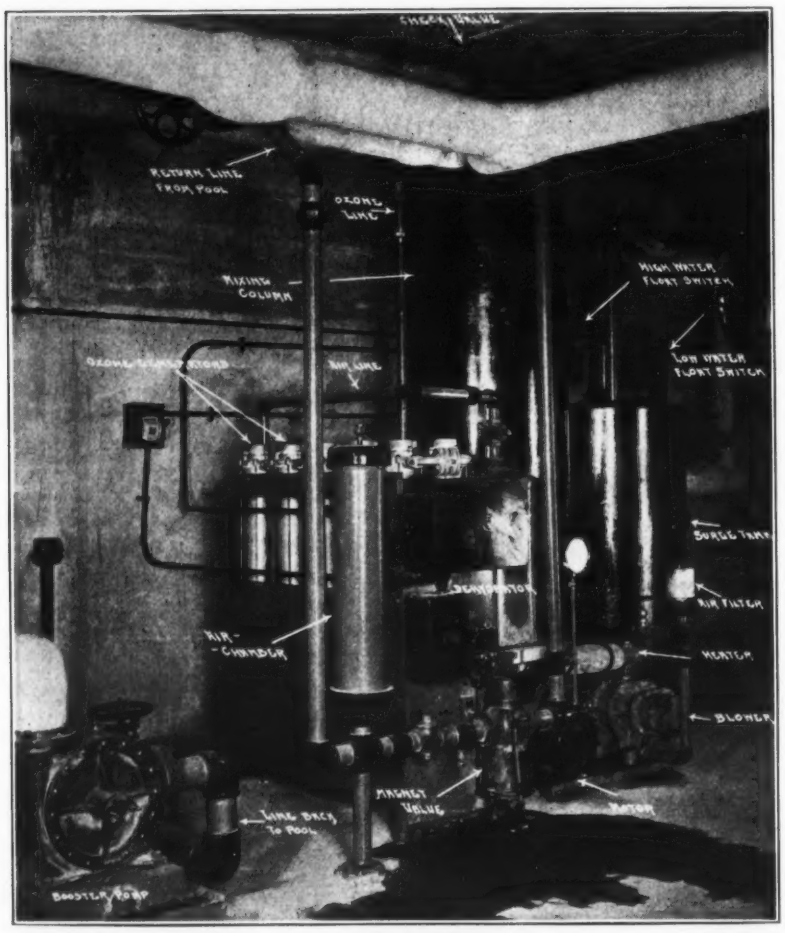
The Essentials of an Ozonizing Plant

The ozone generators, the injector for emulsifying the water and ozonized air, and the mixing column are the essentials of an ozonizing plant. To these we must add sufficient phasing and control appartus, to render the process automatic and foolproof. In order to produce ozone, it is necessary to utilize an electric current; it becomes necessary to further split up the electric supply between a number of circuits, according to the size of the ozone plant. The absence of electricity in any one of these circuits will impair the efficiency of the treatment.

Then, to make the apparatus foolproof in this respect, one should control the flow of water by electricity and interlock this control, so that failure of the current supply, or accident in any one or all of the ozonizer circuits, will immediately shut off the flow of water. This control also provides for the simultaneous starting and stopping of ozone production with the flow of the water.

The whole process can be operated by a push button, a float switch, or any other form of automatic starting and stopping device. An injector is efficient only within a definite range of water pressure. In order to insure the proper proportioning between the ozonized air and water, some means must be provided for preventing operation outside of the optimum range. A drop in pressure introduces too little ozone; an increase, too much water for the contact period and concentration of ozone. To place this factor under automatic control, it is necessary to provide high and low pressure switches which serve to open the service to the apparatus, in the event that the water pressure wanders out of its proper range. The successful application of ozone is exacting, but not beyond the limits of engineering skill or mechanical apparatus. As a whole, the equipment is static, there being nothing to get out of order. The very minimum of care is required. No skill is required for its operation, and its protection against all contingencies is so complete as to render the passage of water through the equipment sufficient guarantee that it is purified.

Ozonizers are only moderately expensive, if the proper materials are used in their construction. All parts of the apparatus in contact with the mixed ozone and water should be of copper or bronze. If iron is used, it should be glass-coated, or otherwise protected, against access of the ozone. Ozone will rust iron in an exceedingly short time, where there is contact. Galvanizing is short-lived protection and should not be used. Injector nozzles are best made of nonmetalic substances, and all parts of the apparatus in contact with the concentrated ozonized air should be of aluminum. Money spent for a cheap ozonizer is soon thrown away — the differential required for good materials is money wisely invested.



5000 G.H.P. U.S. SWIMMING POOL OZONIZER.

The Action of Ozone on Organic Matter

The action of ozone on dissolved organic matter is interesting in the extreme. So little as two parts of ozone in a million parts of water is sufficient to decrease the oxygen demand of water from 10 to 15 parts per million to no more than one half ppm. There is certainly not sufficient ozone present to account for this degree of oxidation; yet, if the quantity of ozone be decreased to 1ppm., the oxygen demand of the water will not be decreased by more than 25 per cent.

What occurs is this: A definite concentration of ozone in solution is required to start rapid reaction upon the organic matter; once under way, the highly activated oxygen, which always accompanies the ozone, enters the reaction and carries on the work started by the ozone. When the quantity of ozone is reduced to the point where rapid attack is not induced, the intensity of the reaction is not sufficient to draw much of the activated oxygen into play. There is something of the phenomenon of inertia displayed here. Or relying on that everserviceable explanation of reaction phenomena, ozone catalyzes the reaction, but the limits of the availability of the catalysis are sharp—to derive the benefit of it, the quantity and concentration of ozone cannot be reduced.

Excellent proof of this action is found in the ozonizing of still waste-bearing water, or water containing chlorinated organic matter. Still waste-bearing waters can be ozonized and subsequently chlorinated, without producing taste or odor, proving that the organic waste has been eliminated. This will require a definite quantity of ozone, but much less than that required for a quantitative reaction. Water heavy with chlorinated matter may have the taste and odor removed by very light ozone treatment, without much removal of the organic matter. This is probably due to the property of ozone to replace halogens. If the quantity of ozone is increased, but not to the extent required for quantitative reaction between ozone and the organic matter, the organic matter will be largely removed.

Solubility is important with swimming-pool water as such ozone as is carried in solution in the water becomes available in the pool to destroy contamination at its source. The ozone is in no way irritating or objectionable; it forms no by-products, and this factor alone gives ozone the first place in swimming-pool sanitation.

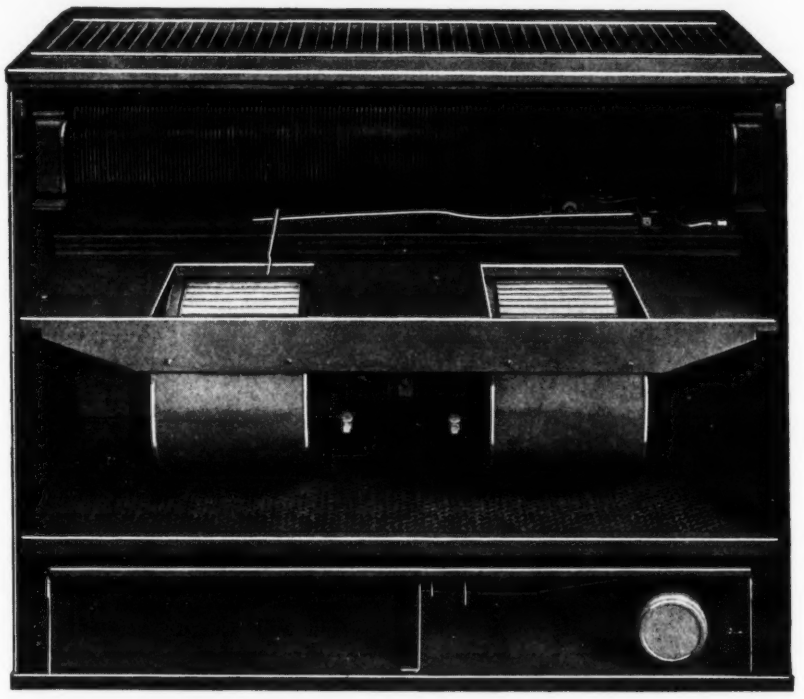
The Arrangement of a Swimming Pool

In closing, a few remarks concerning the general arrangement of a swimming pool will not be out of place. We have accepted the swimming pool as an essential factor in healthful recreation. The tendency of the time is certainly toward the care of health and the development of physique. The Chicago Tribune, in a recent editorial, suggested that if Chicago is to make a success of the now contemplated World's Fair, it could do no better than sue for the Olympic Games as its main source of attraction. The age is definitely athletic—a recurring cycle of appreciation of health.

The swimming-pool movement which has health as its objective is to be encouraged, as a natural reaction against the artificial conditions which uncurbed industry would impose. A swimming pool lends itself naturally to aesthetic treatment, and the manner of this treatment may well improve its sanitation.

Just why do we stick our pools in an artificially lighted basement, or sequester them between the seventh and eighth floors of a skyscraper? If they must be on the ground, take the advantage of a wing, or a spacious air and light-well. If they must be aloft, put them on the roof. It will not be long before transmission glass which admits the health-giving rays of the sun, will be produced at a cost that permits of its use for this purpose.

Let us make the ceiling of the swimming-pool room of this glass, and flood it with sunshine, combining at once the old Roman bath and solarium! The thought is full of possibilities and should appeal to the architect. It has been objected that a glass ceiling in winter would cause precipitation of water on the glass, which would collect and drip off, making the room both unsightly and uncomfortable. This problem the ventilating engineers can solve directing warm-air heating currents across the glass.



Improved PeerVent Unit with front removed to show interior. All parts can easily be removed and replaced, for inspection or cleaning, without tools. The air filter (extra equipment) can be of any make specified.

Successful Experience

38 years in Heating and Ventilating . . .
15 years in Unit Heating and Ventilating

The PeerVent Heating and Ventilating Unit of today is a remarkable machine. The results of 38 years' experience are centered in this Unit. It includes all the sound engineering principles of earlier PeerVent types, plus improvements in almost every detail of the Unit. And every improvement is based upon practical experience, not mere theory; for the Peerless Unit Ventilation Company was the pioneer manufacturer of Heating and Ventilating Units. Units built by this Company *fifteen years ago* are still in service and are giving perfect satisfaction.

This Company offers prospective purchasers two important advantages: (1) A unit which is long past the experimental stage. (2) A thoroughly experienced organization.

Write for Booklet on the Unit System of Heating and Ventilating; or, on request, we will send our local representative.

PEERLESS UNIT VENTILATION CO., INC.

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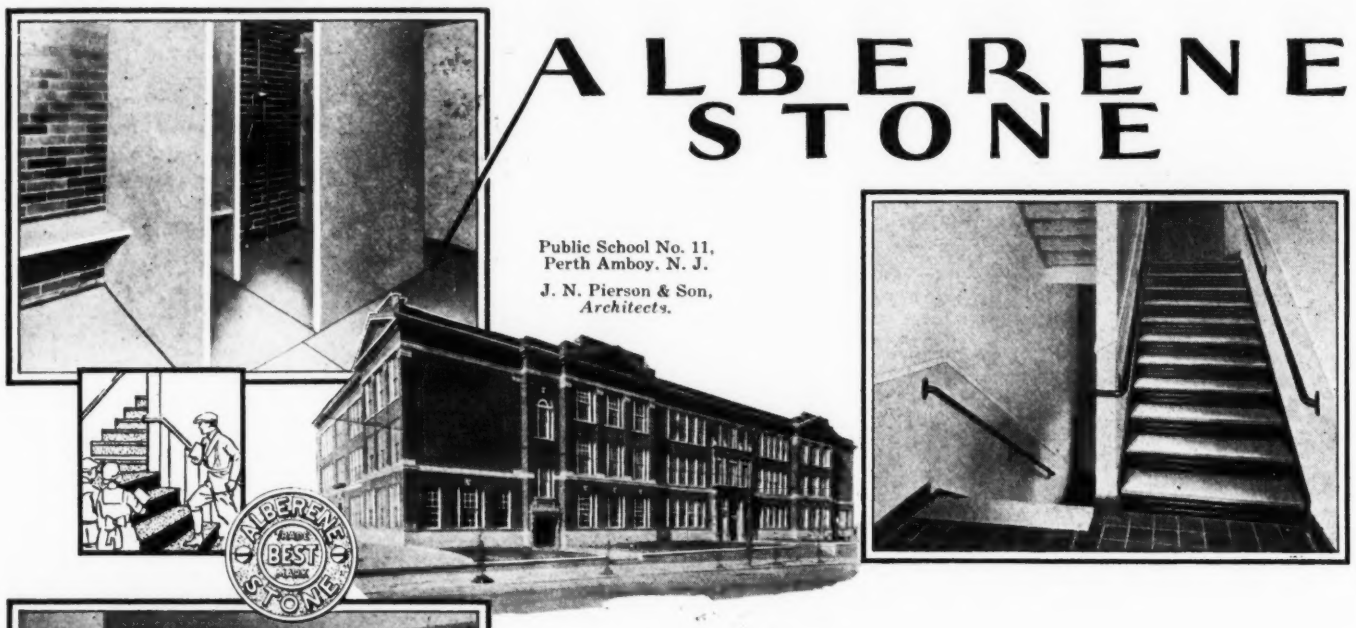
NEW YORK, 369 Lexington Ave.; BOSTON, 80 Boylston St.; BUFFALO, 135 University Ave.; HARRISBURG, 705 Telegraph Bldg.; CLEVELAND, 1836 Euclid Ave.; DETROIT, 1214 Lafayette Bldg.; CHICAGO, 808 Monadnock Bldg.; MINNEAPOLIS, 240 Seventh Ave. So.; PORTLAND, ORE., 927 Board of Trade Bldg.; TORONTO, CANADA, Darling Bros., Ltd., 77 York St.

PEERVENT

HEATING AND VENTILATING UNITS



For stair treads and landings, for shower stalls and dressing rooms, for toilet partitions and urinals, and for laboratory equipment — Alberene Stone possesses those time-proof qualities which have dictated its use in many of the most modern and up-to-date school plants. * * * Write the Alberene Stone Co., 153 West 23rd Street, New York, for the catalogs explaining Alberene applications, advantages, and conveniences.

(Continued from Page 133)

is held that a teacher has the right to inflict corporal punishment to maintain authority so long as the punishment is not excessive and is the result of sound discretion.

—Lowell, Mass. The school board has ordered its attorney to bring court action against the city government to have raised by taxation the sum of $1,461,533 for the conduct of the schools during the school year 1928-29. The action of the board is the first step in an effort to have settled by the courts whether the school board or the city council has the right to determine the amount of money needed for the operation of the school system.

—Salem, Oreg. The school board has again taken up the problem of eliminating secret societies in the high school. The board has been informed that eight secret societies are in existence in the high school, in violation of a state law. The board will shortly take some drastic action to eliminate such groups from the school.

—The supreme court of Colorado has been asked to decide whether a girl student may be barred from high-school attendance for failure to conform to the rules on uniform dress. An appeal was taken from a decision upholding the Huerfano county school board for uniform clothing.

The complainant, Mr. S. J. Lamme, in his petition, held that the school board had exceeded its authority in specifying that the students must wear a regulation uniform consisting of a plain white blouse with three rows of braid on collar and cuffs, a black tie, and blue skirt. He objected to the disbarment of his daughter, Rosalie Lamme, on the ground that her clothing was somewhat at variance with that prescribed.

—The state attorney has started proceedings in the circuit court of Illinois in behalf of Mr. E. H. White of Fox Lake, to remove the members of the Grant township school board. The suit charges that notice of election, at which the board was organized last summer, was insufficient and the election thus became irregular and illegal. It is planned to hold another election for the purpose of organizing the district once more.

—San Francisco, Calif. The board of education has appointed a special committee to adjust a controversy over the increase in salaries demanded by the teachers of the junior and senior high schools. The increases requested would amount to $100,000 the first year, and a total of $700,000 at the end of four years.

—A suit has been brought in the common pleas court of Summit county, Ohio, to restrain the Coventry township school board from erecting a proposed high school. The suit was brought by Mr. C. A. Wagner, who charged that the site of the school did not meet the sanitary requirements of the state, and also that the board had already sold $135,000 in bonds for the building.

—Wilmot, Ohio. The corner stone of the new high school was laid on May 16, with appropriate exercises.

—The school board of Lake View, Iowa, has taken charge of the sale of schoolbooks in the city. The books will be sold to pupils at practically cost.

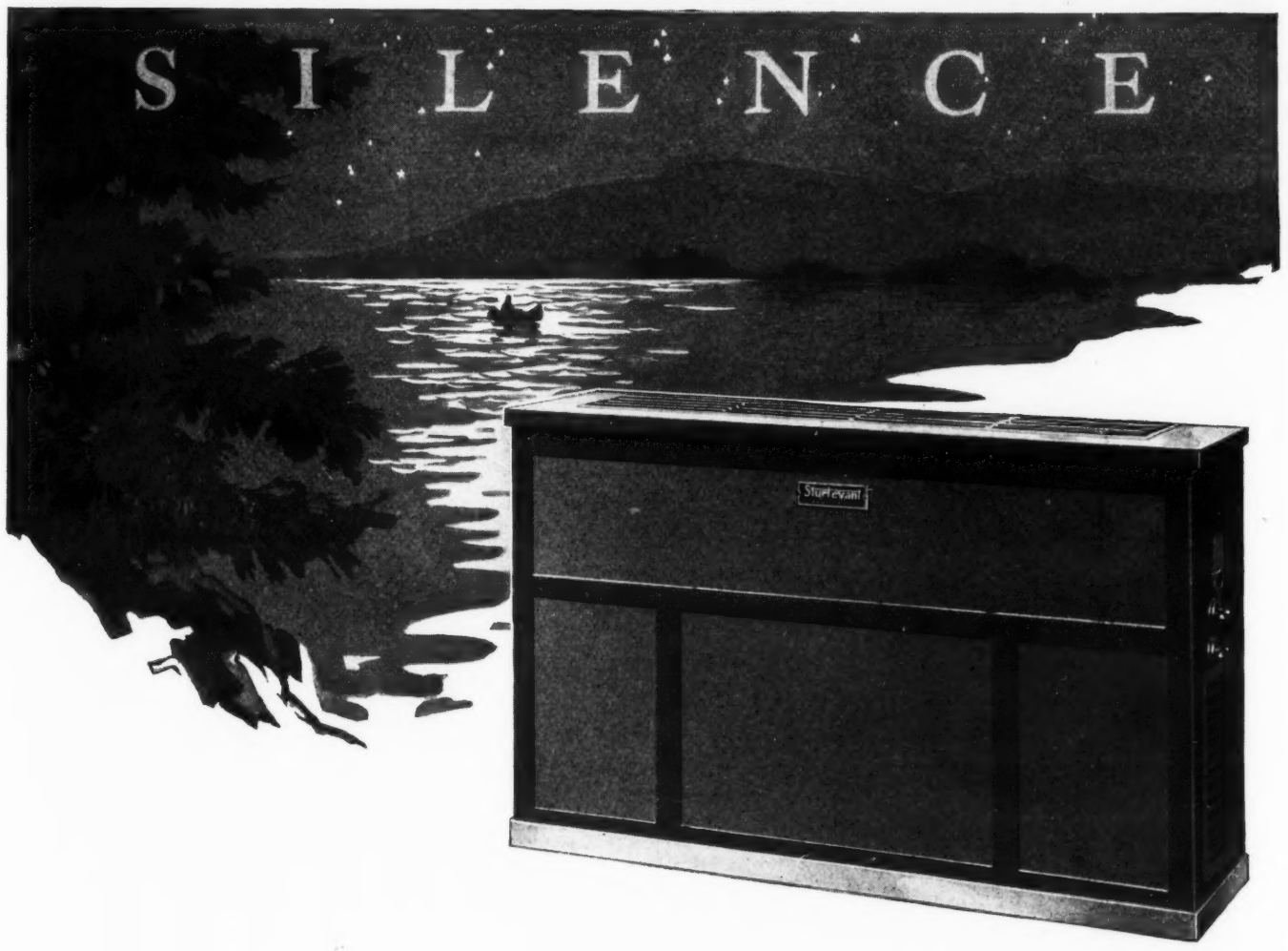
—The school board of Reading, Pa., has granted increases in salary to janitors, engineers, and firemen, effective July 1. The cost of the increases will amount to more than $12,000 a year.

—Deputy county counsel E. R. Purdman of Los Angeles county, California, in a recent opinion to Supt. Mark Keppel, holds that the school board is empowered to use its own discretion in determining the intelligence of school children. Mr. Purdum recommended that a fee of $25 be paid Dr. J. Williams for services performed in passing on the intelligence of a pupil who had applied for education at one of the county schools. In the ruling, Mr. Purdum pointed out that it is permissible for school authorities to employ experts for the examination of school children who are believed to be abnormal.

—The state education department of Arkansas is interested in a recent decision of the supreme court of the state to the effect that the 1927 legislature gives county boards of education authority to consolidate, and to form new school districts. The case arose in Boone county, where the board of education sought to consolidate two school dis-

(Continued on Page 138)

GRAY HIGH SCHOOL, IDABEL, OKLA.
John J. Davis, Architect, Oklahoma City, Okla. Paul R. Taylor, Superintendent of Schools.



Built to be more than "quiet"

ENGINEERS and architects expressed a need for a unit ventilator that would be more than "quiet" in operation—a unit ventilator which they could install, confident that it would run so silently that the occupants of a schoolroom, church or office would be unable to detect its operation.

Sturtevant Engineers set out to build such a unit ventilator. In the Sturtevant Research Laboratories, where ventilating equipment has been evolved to meet the demand of the greatest projects in air engineering, the work was begun. Designs were made—revised—made again. Countless experiments were conducted. Special motors and fans were developed. Finally, the "Silent" Sturtevant Unit Ventilator was produced.

Many installations of the "Silent" Sturtevant have already been made which you can inspect. The nearest Sturtevant representative will gladly take you to a local installation where you can observe the "Silent" Sturtevant in operation. You will then know why it meets the most exacting requirements for quietness and efficiency. Bulletin 344-A explains the equipment in detail. Let us send you a copy.

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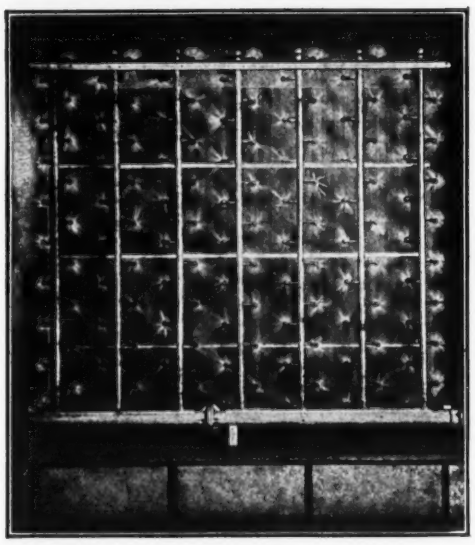
Sturtevant REG. U.S. PAT. OFF. the Silent Unit Ventilator

Fresh, pure air—and plenty of it with "Buffalo" Carrier Apparatus



Interior of a "Buffalo" Carrier Air Washer showing sprays in action. Carrier Washers are very easily operated, temperature control is perfect, regulation of humidity is simple, the life of the equipment is very long, and the operating efficiency is unusually high.

Nothing is so important to both teacher and students as a properly tempered and controlled supply of fresh, pure air.

Numerous schools throughout the country, now using the "Buffalo" Carrier System, have found it not only reduces considerable nose and throat illnesses but also is an aiding factor in the progress of students.

"Buffalo" Carrier Air Washers actually wash the air, saturating and removing every particle of dust and dirt. Carrier treated air is pure, fresh, and properly humidified.

Buffalo Forge Company

186 Mortimer St. Buffalo, N. Y.

In Canada — Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

(Continued from Page 136)

tricts. A protest was made by the residents who contended that the merger was impracticable because of the distance which school children would have to travel through the country. The court, in its decision, held that the board of education should have gone into the question with the residents of the county in order that they might have a better understanding of the problem presented. This the board of education failed to do.

—Lawrence, Mass. The school board has been asked to approve a recommendation of Mayor Landers, providing that the sessions in the high school begin at 7:45 a.m. and close at 1:00 p.m., beginning with next September. Under the former plan, the sessions began at 8:15 a.m. and closed at 1:45 p.m., which caused considerable inconvenience to the mothers of the students.

—Governor Hammill of Iowa has asked the school boards of the state to purchase Iowa coal for the schools during the coming year. Declaring the conditions in Iowa mines are unsatisfactory, the governor asked that the schools follow the example of the state in purchasing from their own state mines.

—Plans have been made for the reorganization of the teachers' retirement-fund association of Portland, Oreg., which is to be based on figures and conclusions presented by an actuary employed by the school board and the teachers' retirement-fund association. Although the present retirement fund has been criticized frequently as being insolvent, school officials generally concede that this is not actually so. It is recognized, however, that the time may come when the annuity would have to be prorated and the teachers would not be able to draw the full pension of $500 as at present provided.

—The school board of Oklahoma City, Okla., has appointed a committee to work out a plan for a pension and retirement fund for superannuated teachers in the school system. The action was begun coincident with the dropping of one 71-year-old teacher from the teaching staff next year.

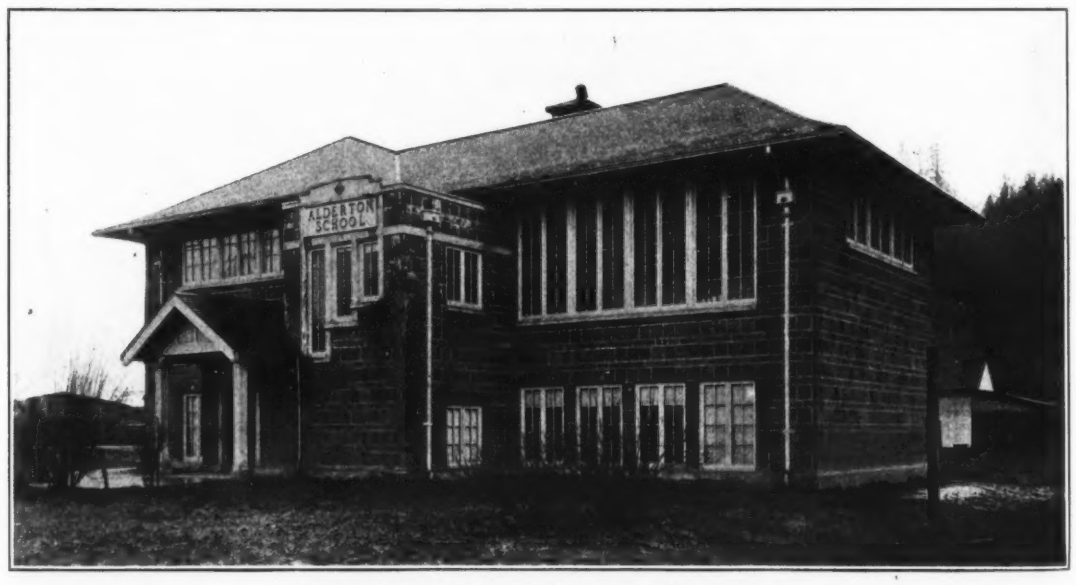
—The school board of Newport, R. I., has amended its rules providing that the marriage of any woman teacher shall automatically sever her connection with the school system. The rule became effective June 1.

—Colchester, Ill. The school board has adopted a new plan for paying school teachers. Under the plan, teachers will be employed for a year and will be paid one twelfth of a year's salary monthly. Under the former plan, teachers were employed by the year or month, and were paid each month, with pay in full at the close of the school term.

—The local teachers' federation of Madison, Wis., has asked the board of education to revise the sick-leave plan for teachers. The teachers have asked

(Continued on Page 141)

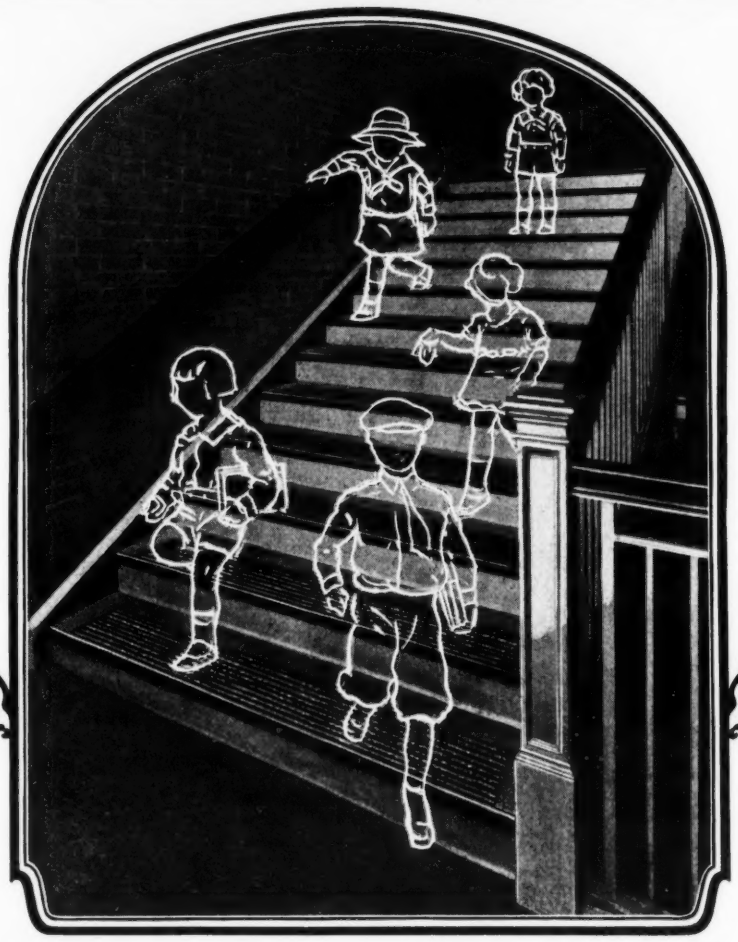
EATONVILLE, WASH., FIRST SCHOOL, ABOUT TWENTY YEARS AGO.



ALDERTON GRADE SCHOOL, ALDERTON, WASH.

A CONTRAST IN SCHOOL BUILDINGS.

The illustrations above are interesting in that they show clearly the advance which has been made in education and in schoolhouse structure in the rural districts of the state of Washington. The Eatonville school is a log house erected about twenty years ago, containing the simplest schoolhouse conveniences, and suggesting the privations and difficulties of pioneers in a pioneer country. The Alderton grade school is a consolidated building constructed of fireproof brick and tile, and equipped with all the latest devices for a rather complete course of study. It has furnace heat and a positive system of ventilation, and is lighted according to the most approved methods of fenestration. Thanks are due to County Superintendent H. J. Fisher for the use of the photographs.



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HUNDREDS of youngsters, heedlessly scampering up and down Stairs need the protection Wooster Safe Groove Treads can give to stairs in your school. Thoughtless of danger, that lurks in the pits and hollows of worn steps, their safety of life and limb depends upon you.

Wooster Safe Groove Treads are ideal, inexpensive equipment for school stairways. Their broad, deep safe grooves alternating with ribs of hard, wear-resistant anti-slip provide safe footing for both teachers and pupils. There is no stairway depreciation where Wooster Safe Groove Treads are used.

Wooster Treads prevent wear upon the original surface of the steps and last. And when after years of service the veteran treads do begin to wear, they are easily and quickly replaced with new Wooster Treads.

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"The Electric Towel"

They Practice Hygiene where it is Taught

This is the model most generally used in schools and colleges throughout the country where original installations have not been made.

It is equipped with foot pedal control and adjustable nozzle, making its operation quick, easy and silent. Finished in pure white porcelain enamel, it is an attractive addition to any wash room.

Standard Pedestal Type

Dries Hands and Face Quickly, Thoroughly with Electrically Warmed Air

THE improved "Electric Towel," a development of ten years by the originators of electric hand drying, is offered to schools and colleges in new and attractive models that assure ultra-sanitary and neat appearing wash rooms.

The "Electric Towel" successfully solves the wash room problem. It eliminates the necessity of cloth or paper towels, cuts expenses in half, and delights the users. The "Electric Towel" dries in a most natural and pleasant way, diffusing a blend of heat and air in the correct proportions over the hands or face and leaving the skin fresh, invigorated, and thoroughly dry. Equipped with an especially designed "G. E." electric motor, the "Electric Towel" operates so quietly and quickly that except for the sensation of clean, warm air being blown against the skin, the user is scarcely aware of its mechanical action. No noise, no vibration, and thorough drying—the results of continuous improvement in the manufacture of this machine.

The economy of the "Electric Towel" as compared to cloth or paper towels and the atmosphere of cleanliness and good order that it imparts to the wash room are factors which make it a popular addition to the school lavatory. No unsightly heaps of discarded towels with their attendant fire hazard, and a saving of from 60 to 80 per cent in wash room maintenance! Teachers and students alike will appreciate the cleaner, quicker, more pleasing method of drying when your wash rooms are equipped with the "Electric Towel."

Send today for illustrated booklet showing how you can use the "Electric Towel" to advantage in your school buildings.

AMERICAN AIRDRY CORPORATION
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Cut Your Towel Costs 60% to 80%

Actual saving by the use of the "Electric Towel" is from 60 to 80 per cent. With this machine janitor service in the wash room may be dispensed with and high-priced cloth and paper towels eliminated. One thousand "dries" with the "Electric Towel" cost 30c, compared with $5.00 for cloth towels, and $3.35 for paper.

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Gentlemen: Please send me your illustrated booklet giving complete information on the "Electric Towel."

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If you could dismiss dirt as easily . . . . .

IF DIRT only left at the end of the school year — scampered off without being twice told—you would not be thinking now about summer cleaning. But dirt lingers on, and vacation cleanup time is here again.

Are you making light work of it this year? Hundreds of schools are—by letting Oakite do the drudgery part of cleaning. With this efficient material to help, every job is so much easier! Floors and desks are cleaned with a minimum of scrubbing —windows washed in a jiffy— walls and woodwork brightened up with scarcely any effort at all.

This easy Oakite way to clean is ***safe***, too. You will not have to worry about equipment because Oakite contains no caustic, no soap, no abrasive. Nothing to cause wear—nothing to leave a slippery film. Write for 20-page practical booklet "Oakite in Schools." It contains money-saving suggestions for all types of school cleaning.

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Industrial Cleaning Materials and Methods

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of the United States and Canada.

(Continued from Page 138)

for a cumulative plan, so that if they do not use all the days for sick leave, they may be given credit for the remaining days the following year. Under the present plan, the teachers are allowed ten days' sick leave each year on full pay.

—Aurora, Ill. The school board has passed a rule, requiring that all teachers and other employees of the board present certificates of vaccination before the opening of school next fall. The rule is intended to safeguard the health of the school children and faculty members, and to prevent a reoccurrence of an epidemic such as threatened the city during the closing months of 1927.

—Oakdale, Calif. The grammar-school trustees have reenacted an old rule governing the employment of married-women teachers, which was rescinded several years ago because of a shortage in the teacher supply. The rule will apply only to teachers who are employed for longer than two years, as it is the purpose to permit the temporary employment of married women as substitutes.

The board points out that one of the reasons for the adoption of the rule is to make places for the young women who are completing their training at the university, and who are graduates of the local schools.

—Judge Henry T. Lummus of the superior court of Lynn, Mass., has recently come to the defense of the Lynn school teachers who are faced with the recent order of the school board that they must establish residences in the city or lose their teaching positions. The judge termed the action of the board as tyrannical and un-American in spirit and one that could produce no practical benefit. More than ninety teachers are affected under the ruling, which forces them to either become residents of the city, or forfeit their teaching rights.

—Lansing, Mich. The board of directors of the Michigan Education Association has awarded the contract for a new office building, to cost $55,000.

—The school district of Barry, Calif., in an action to void the terms of the new teacher-tenure law giving life employment to teachers serving more than a three-year term, has dismissed the entire teaching staff. The action is one that is being generally followed by trustees in the counties of the state in an effort to evade the binding terms of the law.

It appears that in Barry, a factional controversy has arisen among the residents as a result of the board's action in dismissing the teaching staff. A teacher once dismissed may not be reemployed by the same school until a one-year period has elapsed.

—"Schools are regarded as a fine advertising medium and the school child as a splendid salesman. These facts were demonstrated during the war, when the schools, anxious to contribute their bit, promoted outside activities with a degree of efficiency unequaled before, and it has not been easy to get away from the reputation established," says the Wisconsin Journal of Education. "But conditions have changed. The schools exist primarily and only for the children. They should be conducted in the interest of the children, and the board of education and superintendent are under obligation to the children and to the community to bar from the school distractions or anything that bears the mark of commercialism.

—The expediency of adopting a uniform dress for high-school girls was discussed recently by William B. Snow, assistant superintendent of the Boston schools. His views are summed up in the following paragraph: "Artificial distinctions need no encouragement here; and the boy or girl whose work is in a high school may well dress exactly like any other boy or girl of good taste whose work happens to be in the home, the office, or the factory. Good schoolwork is not dependent upon the cut or material of the pupil's gown; and unless there is something about the clothing which would make it objectionable in other places where the people gather together for social or economic reasons, the parents, and not the school officials, should decide what a girl is to wear."

—Ithaca, N. Y. The board of education maintains a definite business policy which is clearly outlined and rigidly enforced. Under this policy, the board pays all bills once each thirty days, collects the discounts and maintains a balance in the school treasury.

The business of the schools is conducted according to a budget system. Each committee must have sufficient funds to its credit to carry out any business procedure. When the fund has been exhausted, all transactions must be discontinued until more funds have been provided.

The board does not make it a policy to secure loans, but faithfully endeavors to live within the income provided. The funds in the bank regularly draw 3 per cent interest and a building and sinking fund take care of emergencies.

The annual financial report, which shows the receipts and expenditures of the schools, is mailed to all members of the local chamber of commerce, and to the members of the rotary and exchange clubs. The board has never failed to receive financial support for buildings, equipment, and other extension of services of the schools. There is a small bonded indebtedness, which is being annually reduced.

—The number of graduates from high schools of the United States during the school year 1925-1926 shows increases over the 1920 figures of 110 per cent for boys, and 74.2 per cent for girls, according to a recent report of the Bureau of Education. While more girls than boys were graduated from high school, the report shows that more boys than girls attend college. The percentage of the 1925 graduates who attended college during 1926 are given as 37.4 for boys, and 27.8 for girls.

In 1925, the high schools reported 396,003 graduates, of which number 126,782 went to college in 1926, and 54,426 others attended some other institution.

—"The most uncomfortable school trustee I know is the one who can see flaws in all ideas that are brought forward, but who never ventures to stand by an idea of his own," said Samuel Farmer, a Canadian school official in a recent public address. "Sometimes that kind of trustee takes the public into his confidence to the detriment of the rest of the board. He is like the old lady who went to see her son pass by in the great parade of soldiers.

STATE SCHOOL FUNDS

It is a fundamental principle of American education that the wealth of the state shall educate the children of the state, regardless of where the wealth is located and of where the children reside. A unit of the state that does not have sufficient wealth to educate its children must be helped by the wealthier communities, through a state school fund. The purpose of a state school fund is to equalize the burden of taxation for schools, and to secure, in a measure, equality of educational opportunity for all the children of the state.—Albert S. Cook, State Superintendent of Maryland.

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Economical in Service

If you are constantly paying out money for repairs or replacements, stop to consider how expensive those "cheap" plumbing fixtures have turned out to be. An installation of NONCO fixtures would have relieved you of the necessity of paying for these periodical repairs.

For NONCO Fixtures are noted for their economy. The utility, durability, and trouble-free service combined with the original cost is the rightful measure of true economy. If you stop to consider this you cannot help but consider NONCO Fixtures, some of which have given over 45 years of faithful service in schools.

Write us concerning your problems and let our service department help you dispose of them. Also please request the NONCO catalog before you make any further plans.

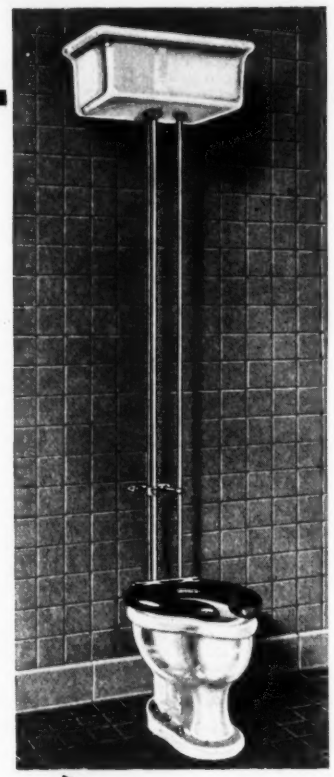

Plate 4785N Induced siphon closet with vitreous china standard height siphon jet bowl. Has the NONCO patented seat operating valve, a sanitary oak seat, and a porcelain enameled in and out cast iron top supply tank.

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PIONEER MANUFACTURERS OF PLUMBING FIXTURES FOR SCHOOLS

When she came home, she declared that they were all out of step except her son John."

—The Boston school board has appointed a committee for the study of heating and ventilation consisting of the following persons: James J. Mahar, domestic engineering, chairman; Dr. John A. Ceconi, director of school hygiene; Mark B. Mulvey, schoolhouse custodian; John M. Sullivan, sanitary inspector; Nathaniel J. Young, director of physical education; Miss Katherine C. McDonnell, master, Christopher Gibson district; Frederick A. Guindon, master, Quincy district.

—The administration of the schools of Knoxville, Tenn., at the request of a group of citizens, is to be investigated by a committee of the city council. It is contended, however, that the council has no authority to subpoena school officials and teachers. Again, that the schools are under the control of the school board and not the city council.

—A recommendation for a new administration building for the New York City board of education has been included in the annual report of Supt. William J. O'Shea. In his report, Supt. O'Shea pointed out that the present structure is overcrowded because of the increase in departments, and that its many bureaus scattered throughout the city produce a heavy rental cost. He showed that efficiency and economy of time and expense would result if a new large building were provided to give more adequate facilities for the older bureaus, and to permit the return under one roof of the bureaus now housed elsewhere.

The present administration building was erected more than twenty years ago and was built to accommodate the central board of examination. At the time, many of the duties of the present board were allocated to four borough school boards, three of which had separate offices. During the two decades since the erection of the building, the day-school registration has increased by more than 150 per cent. The expansion of the school system by many types of schools and new activities requires specialized supervision and administration.

The bureau of supplies alone has three separate depositories in Manhattan, one of which could be sold for a much higher figure than the $300,000 paid ten years ago. A central depository building could be erected from the sale of the structure and the cessation of rental costs for the other two.

—New York, N. Y. The board of education has approved the bids of four firms for furnishing, delivering, trimming, and storing the coal required for the schools and offices in the boroughs of Manhattan, Bronx, Brooklyn, Queens, and Richmond, and has ordered that the successful bidders proceed with the delivering of coal to the schools for the next year. The bids called for 196,000 net tons of coal.

In the Borough of Manhattan, the lowest bid amounted to $444,918.50; in the Borough of the Bronx, it amounted to $260,699.75; in the Borough of Brooklyn to $608,972; in the Borough of Queens to $228,142.

—Dr. Jacob S. Orleans has resigned as a member of the staff of the educational measurements bureau of the New York state education department. Dr. Orleans has become associated with the World Book Company at Yonkers. Dr. Orleans, who had been a member of the department's staff since 1924, had conducted a number of educational surveys and had supervised the construction of educational tests used in such surveys.

—Prof. Raymond Baker of Albany College, Albany, Oreg., is the first candidate to earn the degree of doctor of philosophy in education at the University of Oregon, and the second to attain the doctorate at the institution in any field. Professor Baker's thesis was entitled "The Educational Philosophy of William T. Harris."

—A proposed amendment to the Constitution of Colorado provides for a nonpartisan election of seven members to constitute a state board of education. This body is to have the power to appoint a state commissioner of education. The Pueblo Star-Journal says: "The board would select a commissioner of education on merit only. No restriction would be placed on where the commissioner should come from. The board could use tests or cross-examinations as ways or means to select a successful candidate. And worthy candidates from all over the country could apply."

CANADIAN CONCEPTION OF SCHOOL-BOARD DUTIES

"The work of a school trustee requires intelligence, tact, and industry," said Samuel Farmer, president of the trustees' department of the Ontario Educational Association. The qualifications required include (1) belief in the school, (2) willingness to learn, (3) interest in the community, (4) ability to cooperate, (5) progressiveness, (6) financial ability, (7) knowledge of education, (8) ability to get things done, (9) ability to withstand criticism.

Mr. Farmer outlines the main duties of the school trustee in part as follows:

To appoint officers and committees.

To fix the date and hour of board meetings.

To inspect the school property at the first meeting of the board.

To provide ample accommodation for the pupils and teachers.

To provide and maintain the school premises.

To procure necessary equipment—books, maps, globes, etc.

To determine the number and kind of schools required.

To keep the school open and to establish classes.

In rural schools to report the deaf, dumb, and blind to the minister of education.

To provide and pay for dental and medical inspection.

To dismiss or expel refractory pupils.

To exempt indigent persons from the payment of school taxes.

To pay officials in urban boards—inspectors, attendance officers, teachers, etc.

To provide for the insurance of the school property and equipment.

To lay before the council estimates for moneys.

To pay teachers' salaries.

To publish an auditor's report.

To have the custody and disposal of the school property.

To supplement superannuation allowances if deemed expedient.

To execute agreements with teachers.

To permit the schoolhouse and premises to be used for any educational or other lawful purposes which may be deemed proper, provided the proper conduct of the school is not interfered with.

If deemed expedient, and subject to the regulations, to establish, conduct, and maintain free lectures open to the public, and to include in their estimates for the current year the expense thereof.

To dismiss the secretary or treasurer, presumably for cause.

Briefly summarized, these duties require the school trustee to keep the school and school equipment in proper condition, employ necessary and suitable teachers, and take proper steps to insure the health of the pupil to be such that the state is warranted in spending money for the education of the pupil.

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Keep Them Healthy Vigorous and Lively

HEATOVENT, unit system of heating and ventilating, keeps the kiddies physically and mentally fit in every way. For the HEATOVENT provides proper ventilation under all conditions through its feature of unit control.

HEATOVENT permits the regulation of temperature and ventilation in each room separately. No need to heat or ventilate rooms that are not in use. A measured volume of warm, fresh air, heated to room temperature, is diffused throughout the rooms, when occupied, by merely pressing the button.

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New York City.....1400 Broadway
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Philadelphia, Pa.....1410 Jefferson Bldg.
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REPRESENTATIVES IN ALL PRINCIPAL CITIES

TEACHERS AND ADMINISTRATION

TEACHER STANDARDS ARE ADVANCING

The educational qualifications of teachers have advanced at a remarkable pace, is the statement advanced by the United States Bureau of Education. In proof of this statement the Bureau cites the progress made in several states.

In the four years ending with 1924, the percentage of one-room rural-school teachers in New York state, who had completed their academic training in high school, increased from 64 per cent to 73 per cent; the percentage who were normal-school graduates increased from 9 to 11 per cent. The percentage of elementary-school teachers having completed their high-school preparation, as reported in 1921 and 1925 by students in the summer normal of Mississippi, increased from 41 to 68 per cent; the percentage having completed two years or more of college increased from 9 to 12 per cent.

During a similar period ending in 1923, the percentage of teachers in Missouri with two years or more of normal-school training increased from 36.6 to 39.6 per cent. The percentage of all the elementary teachers served by state supervising agents in Connecticut that have completed two years or more of normal-school training has increased from 35 per cent in 1920 to 53 per cent in 1924 and to 60 per cent in 1925. In the state of Wisconsin in 1921, 6.8 per cent of the rural teachers, 31 per cent of the state graded teachers, 52 per cent of the village teachers, and 76.3 per cent of the teachers in the elementary city grades had completed the commonly accepted standard of two years of professional preparation beyond high school.

REGULATIONS GOVERNING SICK LEAVE TO TEACHERS

Mr. O. H. Plenzke, assistant superintendent of public instruction of Wisconsin, has presented a report in which he gives the results of a study of methods of granting sick leave to teachers. A total of 230 cities reported to the questionary and the findings offer some interesting material for members of school boards, as well as teachers. The report shows that a total of 163 school systems grant from 5 to 50 days of sick leave with full pay; 25 school systems grant from 10 to 20 days with part pay; 42 cities granted no sick leave, and 49 cities granted sick leave for a subsequent period.

The report gives the following data, which is reproduced for the benefit of school boards and other school officials:

Number of Days Sick Leave Granted with Full Pay

	Number of Systems
10	66
5	58
3	12
20	7
15	6
7	3
2	2
4	2
18	2
50	2
6	1
25	1
40	1
Total	163

Number of Days Sick Leave Granted with Part Pay

	Number of Systems
1-2 of 20 days	10
1-2 of 10 days	7
1-4 of 10 days	1
2-3 of 10 days	1
No Limit	5
One-Half Salary	1
Total	25
Grand total	188
Cumulative sick leave	14
Number of cities reporting	230
Number of cities granting no sick leave	42
(Approximately half of these make individual adjustments.)	
Number of cities granting sick leave	188

Part Salary for Subsequent Period

	Number of Systems
Salary Minus Substitutes	11
1-2 salary for 4 days	1
1-2 salary for 5 days	5
1-2 salary for 10 days	11
1-2 salary for 15 days	1
1-2 salary for 20 days	9
1-2 salary for 30 days	1
1-2 salary for 35 days	2
1-2 salary for 40 days	2
1-2 salary for 50 days	1
1-3 salary for 30 days	1
1-3 salary for 60 days	1
1-5 salary for 60 days	1
$1.50 for 15 days additional	1
One half of Salary for Balance of Year	1
Total	49
Number of Cities Reporting	230
Number of Cities Granting No Sick Leave for Subsequent Period	181
Number of Cities Granting Sick Leave for Subsequent period	49

Digest of Practices Governing Sick Leave in Some Cities

Richmond, Va. 5 days full pay. Additional leave on part pay. One year 15 days; 2 years 30 days; 3 years, ½ year.

Ft. Madison, Ia. Five days full pay; 5 days ½ pay. If teacher has little money they pay more.

Sheboygan, Wis. Sick leave 20 days, teachers paid on basis of salary. $120 or less shall receive per day, $3.00.

Over $120 but not over $140 receive, per day, $3.50.
Over $140 but not over $160 receive, per day, $4.00.
Over $160 but not over $180 receive, per day, $4.50.
Over $180 but not over $200 receive per day, $5.00.
Over $200 but not over $220 receive per day, $5.50.
Over $220 shall receive $6.00 per day.

New York City—

Years of Credited Experience	Maximum Days Excusable
1-3	20
4-6	30
7-10	40
11-15	50
16	60

Atlanta, Ga. In service less than one year, no leave.
In service less than ½ year, ½ pay one week.
In service less than 2-5 year, ½ pay one week.
In service less than 2-5 year, ½ pay two weeks.
In service less than 5-10 year, ½ pay four weeks.
In service less than 10-20 year, full pay six weeks.

Stamford, Conn. Full pay 15 days sick leave with one additional day for each year up to 15 days.

Atlantic City, N. J. By a special rule of the board of education no deduction is made from the teacher's salary for absence due to the following: personal illness, serious illness in the immediate family, death in the family, quarantine, or visiting schools (2 days). For absence due to any of these causes, the teacher does not lose any part of her salary. For absence for any other cause the full salary is deducted.

Boston, Mass. Deduction of 1-400 yearly salary for each day's absence.

MEN TEACHERS INCREASING IN SCHOOL SYSTEMS

The Bureau of Education has completed a study which shows that school teaching, as a calling for men, is calling increased numbers of men back to the classroom. The study shows that of the 1,000,000 persons engaged in teaching in 1926, 17 per cent were men, while in 1920, only 14 per cent of those teaching were men.

Until 1920, there had been a constant decrease for two generations in the number of men teachers

(Concluded on Page 146)

They Can't Stand Unflushed Probably for the Next 35 Years

Record No. 103

In 1908, 28 Clow Madden Automatics were installed. In 1922, there were no repairs to date (14 yrs.). They were then reinstalled in new school building and are now (1928) still going strong. *Location: School, Buffalo Center, Iowa.*

Unflushed closets are filthy, dangerous headquarters for filthy, dangerous insects, smells and germs. Clow Madden Automatics *never* stand unflushed.

Each time, *each time,* no matter how many times they are used . . . Clow Madden Automatics flush themselves. They're automatic. They can't stand unflushed.

Each time, a deluge of water whirls away all waste. Each time, the bowl is purged of taint. And Clow bowls co-operate with water. They have no bumps or hollows to cause eddies.

Simple, sure, strong, describe the Clow Madden Valve (it has no by-passes, floats or temperament). It's sensible about water . . . never wastes it . . . never stints it.

Sanitation follows Clow Madden Automatics—through thirty-five years and sometimes more. Water bills become easy to pay. Repair bills seldom happen. (Read Record No. 103.) Send for the Clow School Plumbing Booklet.

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CLOW MADDEN AUTOMATIC

Forty-Eight Styles, Heights and Types to Meet Your Requirements

Pilate washed his hands—

And even today the idea survives as a symbol. Washing was put to other symbolic uses. Certain things were thought to be unclean and he who touched an unclean thing had to wash himself and be made clean again.

Even 4000 years ago it was recognized that "uncleanness" was contagious. But though there were crusades for cleanliness, it was in the face of tremendous obstacles—washing facilities were primitive and sanitary arrangements crude. Disease took its toll in plagues and death.

The Crusade for Cleanliness

Today the crusade for cleanliness has not the obstacle of ancient methods or crude equipment. Cleanliness is made attractive instead of compulsory. Realizing that a clean body means a healthy sound mind—school administrators are giving special attention to the hand washing facilities in the lavatories. The common use of bar soap which carried disease is replaced by modern soap equipment.

Cleanliness made a habit

The SOAPERIOR LIQUID SOAP SYSTEM is recognized as a great contribution to modern sanitary equipment. By its use the idea of cleanliness is instilled in the child's mind. He sees that no hand touches the soap before he uses it . . . he receives an individual supply of a clean, pure soap. Soaperior Soap Equipment has been adopted by hundreds of schools because it encourages cleanliness.

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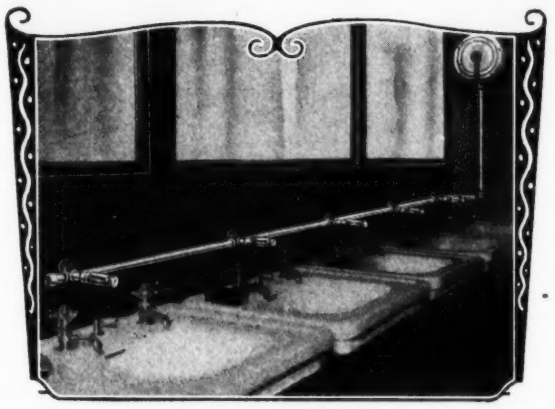
Even the smallest school budget can afford it. Not only is the original investment small . . . but there is a great saving in the maintenance over the cost of cake soap.

The SOAPERIOR SOAP SYSTEM is built for permanence . . . to withstand the rough and tumble treatment of healthy young Americans. Because of its fine construction, there is no need for replacement for years. In the average school it will give fifteen years' loyal service.

For the utmost economy — many schools purchase the Concentrated Liquid Soap. Thus by adding water they quickly produce a perfectly cleansing pure Liquid Soap. These soaps are so concentrated that they remove the last trace of grime . . . but so pure and neutral they do not harm the most tender skin.

This summer, while the school is closed for alterations, is the ideal time for installing a SOAPERIOR SOAP SYSTEM.



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Also manufacturers of Aerzonator Air Purifiers, Cleaners, Disinfectants, Polishes, Floor Oils, and Dressings . . . everything for cleanliness in the school.

(Concluded from Page 144)

in the schools of the country. The Bureau attributes the scarcity of men teachers to the small salaries, the larger opportunities for advancement afforded by commercial and industrial pursuits, and to the fact that women have been seeking new opportunity to work.

The Bureau, in its report, shows that the percentage of male teachers in the schools in 1880 was 43; in 1890, 34.5; in 1900, 30; in 1910, 21; in 1920, 14; in 1926, 17. Several states showed a much greater decrease than the general average. Arkansas, for instance, had 75.6 per cent male teachers in 1870, and 32.4 per cent in 1926. Idaho, in the same period, decreased from 64 to 22 per cent.

In the days of our grandfathers, teaching was largely in the hands of men. The recent tendency toward women teachers is attributed to the fact that the salaries of teachers have been materially increased in the past decade. Teaching is becoming sufficiently well paid to offer a career for men that will compete with other callings.

TEACHERS AND ADMINISTRATION

—Schenectady, N. Y. Under a plan which became effective in February, 1928, all members of the teaching staff of the public schools are to benefit through an accumulation of allowances for sick leave.

Under the rules, ten days' sick leave with full pay will be allowed each year. Any unused part of the 10-day period will accumulate year after year, until a total of 100 days is reached. Members of the teaching staff are permitted to use all, or part, of the accumulated days for personal illness, on full pay.

Where the teacher has 100 days' accumulation, she is permitted to use a half year for travel or study, or some other activity of equivalent value to the school system.

The plan has been made retroactive for 10 years immediately preceding February 1, 1928. Three members of the teaching staff are at present taking advantage of their accumulated leaves.

—Lawrenceville, Ill. The school board has raised the qualifications of teachers to a minimum of a normal graduate for elementary schools and a minimum of a bachelor degree and one year's experience for the high school.

—Objection to death-bed retirements to save large death benefits to the estates of New York City teachers was recently made at a recent meeting of the board of directors of the Queensborough Teachers' Association. Mr. Frederick Mason has been appointed to investigate and collect data to be presented at a meeting of the board of directors in an attempt to work out a solution of the problem.

—New York, N. Y. The board of education, at a recent meeting, voted to extend the course of study in the city's training schools for teachers from three years to four years, beginning with September, 1929, and to raise the graduation requirements from those institutions. The action was taken upon the recommendation of a special committee, following a suggestion of Supt. W. J. O'Shea that the number of students admitted be restricted to definite numbers.

In support of its recommendation for extending the school course, the committee reported that the present oversupply of teachers and the higher salary schedules in force present an opportunity for raising the standards required of persons who desire to teach.

—The effect of the oversupply of teachers is reflected in the recent movement among the normal schools toward increasing the requirements for admission. Higher standards for teachers who enter the teacher-training institutions are indicated as a result of a study of the professional training of teachers made by William McKinley Robinson, and published by the bureau of education.

The change in policy is reflected in the recent requirement of the Pennsylvania state normal schools that students must be graduates of four-year high schools approved by the state department of public instruction. Beginning with September, 1928, the Michigan normal schools will accept only graduates of high schools accredited by the University of Michigan.

—The Interborough Association of Women Teachers of New York City, under the leadership of Miss Helen McKeon, has begun a campaign for the passage of an amendment to the pension law to abolish the "deathbed gamble." The proposed amendment would provide automatic retirement for teachers of ten years' service immediately upon their deaths. Recent hardships suffered by those who died in the service were cited as proof of the injustice of the present law.

It appears that in a number of cases injustice has been done through the sudden death or physical incapacity of those who had regularly paid into the pension fund with the expectation of deriving some benefit from the fund. Teachers who had contributed toward their pensions for 35 or 40 years were stricken suddenly ill, or met a sudden death, with the result that they were unable to sign a retirement application and their estates were placed in jeopardy.

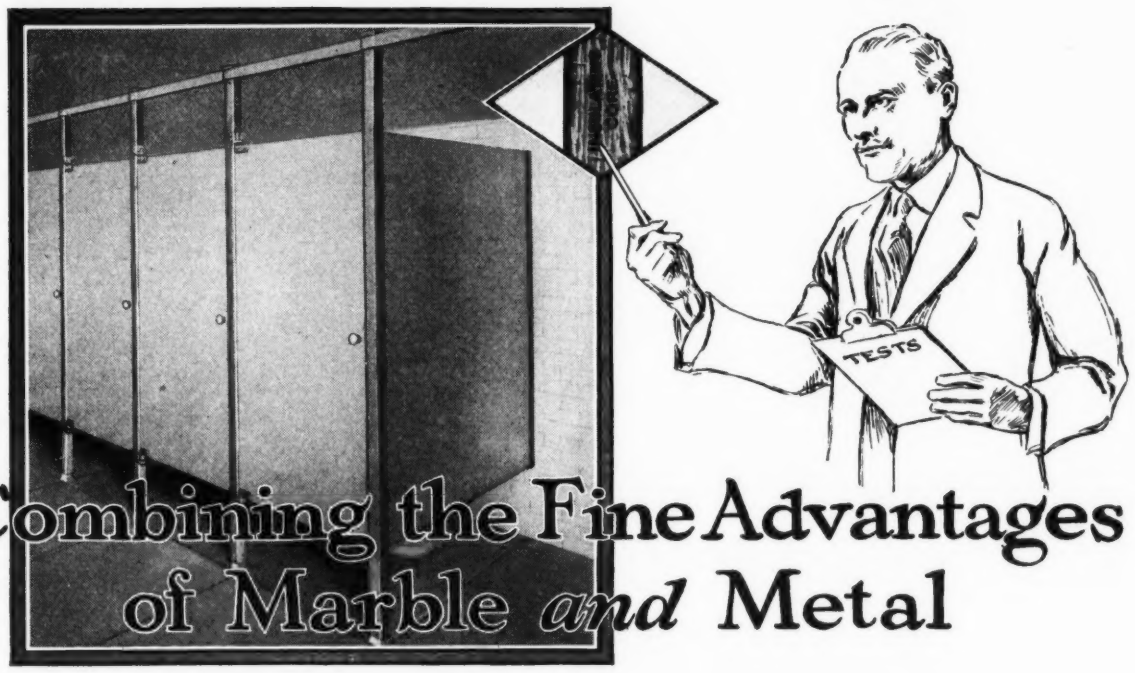
It is the aim of the association to protect the estate of the deceased teacher. The dependents or heirs of the teacher should not be deprived of the pension allowance merely because the teacher was incapacitated from going through the formality of signing a retirement blank.

Midland Schools, the organ of the Iowa Teachers' Association, does not favor the affiliation of teachers with union-labor organizations. It recently said: "Chicago teachers may find it of temporary benefit to thus affiliate with organized labor, for Chicago does many unexplainable things, but the teachers throughout the country are too sane to act likewise. Teachers have a high regard for labor and sympathize with the efforts of organized labor to protect its workers. But the profession of teaching, coming into direct relations, as it does, with all classes in daily serving cannot afford to ally itself with either the labor or the capitalist. There would be no surer way to kill the profession than this."

—Providence, R. I. The school board has adopted a recommendation of Supt. I. O. Winslow, providing for the following salaries for junior-high-school teachers: Principals, $3,500 to $4,200; assistant principals, $2,700 to $3,300; teachers, $1,400 to $2,600.

—The school board of Henryetta, Okla., has passed new rules governing teachers. Under the rules, the marriage of a teacher is equivalent to the cancellation of her contract. Teachers who resign their position without giving fifteen days' notice must forfeit a week's salary. All teachers are required to participate in the work of curriculum revision.

—Among the specific problems of the state education department of West Virginia is the urgent need for a state uniform system of records in the state institutions. A conference of state registrars has been called to assist the presidents and state boards in working out a uniform system of records for these institutions.



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DURING the past few years, there has been an increasingly pronounced demand for a toilet partition finer than the ordinary type of metal toilet partition, and while we were fully aware of this demand, we resisted the temptation to enter the market with an experimental product.

Numerous designs were developed incorporating a great variety of ideas and improvements until finally, after more than two years, we were ready to announce Marblmetal, a full expression of the finest in toilet partitions.

The result is that builders can now have not only a modern toilet partition, but one which has been perfected in the laboratory of experience and combines all of the fine advantages of marble and metal.

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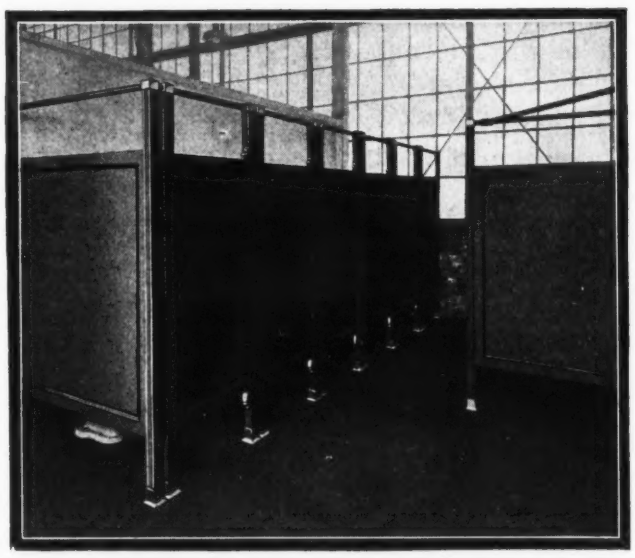
The Sanymetal Symbol

Having served the schools of America for a decade, we understand and respect the preference of this market for metal partitions into which long life is faithfully built—not by master advertising men, but by master metal craftsmen.

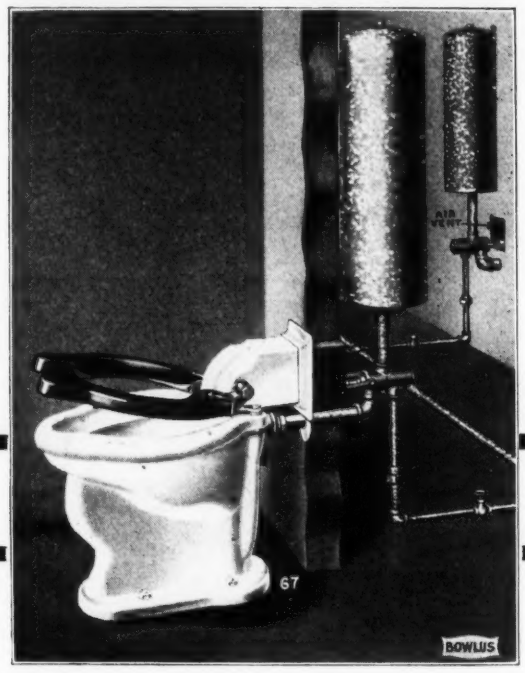
Sanymetal Products for Schools are: Toilet shower, dressing and urinal compartments. Corridor and smoke screens. Metal doors and wainscot. Sanymetal Gravity Hinges. Write for New Catalog No. 30.



Typical Sanymetal Toilet Compartments

The Sanymetal Products Co.
1703 Urbana Road Cleveland, Ohio

Sanymetal
TRADE MARK U.S. REG.
Toilet and Office
PARTITIONS



"I Forgot!"

"I forgot" is a standard yet usually forgivable alibi with all normal children. But when it applies to careless use of toilet room equipment it may menace the health of an entire child-group.

Facing facts, in the interests of child-welfare, it takes but little investigation to prove that failure to flush closets is not an infrequent occurrence even in the best schools or, that in many instances, it constitutes a real sanitation problem. A 100% preventive of this condition is the installation of

JEWEL AUTO PNEU MATIC WATER CLOSETS

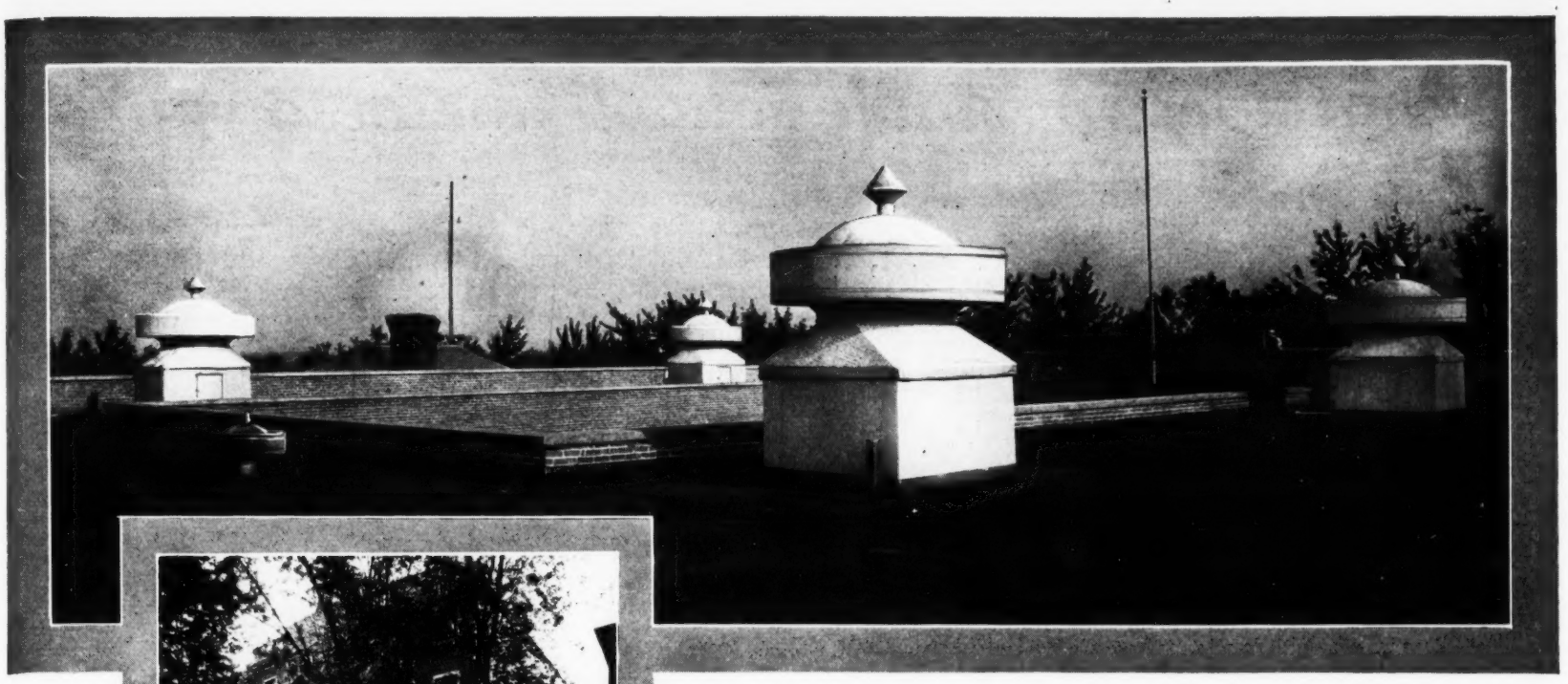
Jewel Units of handsome white vitreous china are specifically designed for installation in schools, institutions, recreation centers, semi-public and public buildings. They flush automatically at every use without water wastage. Depression of the seat fills the tank. Release of pressure flushes the bowl. Water flow is controlled by the famous Jewel Flush Valve, conservatively guaranteed for five years.

Jewel Closet No. 67 pictured above is ventilated at the bowl. Air is withdrawn from the toilet room and bowl through the patented rear vent into an air-tight Utility Room from whence it is evacuated by an exhaust fan.

Send for New Catalog

Address Dept. S-7 for new catalog in color showing the entire Jewel line, giving installation diagrams, etc.

The Bowlus Mfg. Company
Springfield, Ohio



GENERAL AND ROOF VIEWS OF EUCLID SCHOOL

Schenectady, N. Y.
R. L. Bowen,
Archt.

DEPENDABLE VENTILATION

GLOBE Ventilators provide dependable ventilation throughout the year in both northern and southern localities. As a result of the hundreds of efficient **Globe** installations on school buildings, many architects and Building Committees now consider **Globe** as standard for school ventilation.

GLOBE VENTILATOR COMPANY

Dept. J. TROY, N. Y.

SCHOOL SUPPLIES

(Continued from Page 51)

times happen that a teacher may not use one or more of the standardized items. For such cases we allow the code sign X, which means "Do not use."

A column is provided on the blank in which to insert the code. The requisitions in triplicate are now passed on to the central storehouse. The first copy is retained at the central storehouse, the second copy goes to the price clerk, and the third is sent back to the teacher for a check-up. In filling these requisitions at the central storehouse, a recount is made of each item by two people, and the material is then put in cartons or otherwise wrapped and marked "Miss Jones, Room 32, School 76."

The goods are delivered by our own trucks. Packages are receipted for by the principal or some person delegated by merely recording the number of packages delivered. The janitor or somebody designated by the principal sees that the packages are placed in the rooms as marked. The teacher is furnished with a copy of the contents of each package, to be checked by her and returned to the central storehouse. Should a shortage occur, she reports it.

We have received only favorable comments from the teachers in the handling of their supplies in this way. They claim that they can plan their work better by having a ten weeks' supply in their possession, rather than being required to requisition from time to time through the principal from a general storeroom in the building. We find that a great saving has been effected for the reason that not only teachers but pupils have been more careful in the use of supplies.

I hear someone say, "You are handicapping the teacher who may be more progressive than others and because of her enthusiasm requires additional supplies." This may be true. All that it is necessary for such a teacher to do is simply submit the facts through her principal and supervisor, and, if approved by them, the required extra supplies will be furnished. Unless proof of this kind is furnished there is no reason why, when conditions are absolutely the same in one school as in another, one teacher should require more material than another in the same grade. It is not our purpose to handicap a teacher by skimping material. In arriving at our standardized quantities, we considered very carefully the danger of reducing the amount of material furnished to a minimum, but we find that the quantities furnished are satisfactory and the teacher's inventory prevents the accumulating of much surplus.

Purchase Orders

Because certain materials cannot be carried in the central storehouse to advantage, it becomes necessary to issue purchase orders for direct deliveries to the school buildings. Special blanks are prepared upon which the principals are to make such requisitions. The orders are issued in quintuple, consisting of different colored paper. One copy is sent to the vendor; three copies are retained in the purchasing department, one of which is priced and passed on to the finance department to give the daily expenditure and enable this department to control the budget limitation. The fifth copy is sent to the school from which the requisition has been received. This enables the principal to know that his requisition has been honored and with whom the order has been placed. He retains his copy, and, as soon as delivery is made by the vendor, he receipts this sheet and sends it to the purchasing department.

If one or more items should not have been delivered, he sends in his copy just the same, but checks off whatever has been received. In such cases the extra copy retained in the purchasing agent's office is mailed to the principal, giving the unfilled item or items, and this copy he holds until the completion of the shipment. By following this procedure there is no delay in the payment of vendor's bills by holding them for complete deliveries. In case the principal retains this last sheet for a reasonable time (20 days at the longest) and nondelivery of the order occurs, he then makes a report relating the facts to the purchasing department.

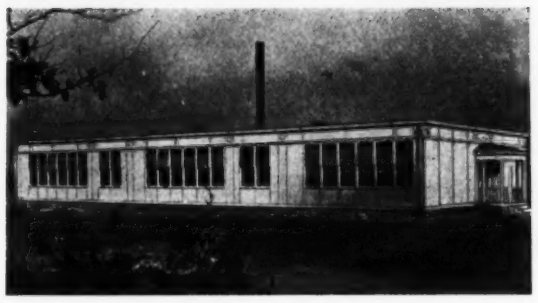
It should not be the duty of the purchasing agent to determine whether the articles requisitioned on purchase orders should be brought. It is not his job to pass judgment on materials other than on regular stock, as in many cases the need of such material ordered may be due to a change in policy, and the only person who can intelligently pass on such an order is the one most familiar with the situation. The superintendent of schools should delegate either the assistant superintendents or the heads of departments to pass judgment on requisitions of this nature.

After the proper approval is affixed, the requisition should come to the purchasing agent whose duty it is to use his best judgment in making the purchase regardless of whether the requisition bears the notation that a given item is to be bought from "John Doe." A purchasing agent who is faithful in the performance of his duty should, through experience, be in a position to effect a better bargain than is a teacher or supervisor who has had no experience along this line. Teachers and others who are required to make out requisitions should thoroughly understand that they should not bargain with agents. It is embarrassing to have an agent call on the purchasing agent and inform him that a requisition is expected from Miss Jones of School No. 92, which would indicate that this agent has had an interview with Miss Jones. Negotiations leading to purchase should be made only through the purchasing department.

Confirmation Orders

Permission should never be given to a principal or any other person outside of the purchasing department to place orders by telephone, intending to send in a requisition bearing the notation "John Doe, confirmation order." If permitted to do so too often, such persons will at some time neglect to send in a requisition, and months after when a bill is presented to the purchasing agent's department for checking, there is no record of the order of the transaction. Confusion arises and consider-

What does "portable school" mean to you?



Twenty years ago the portable school was a child trying to do a man's job. The buildings were unattractive, poorly ventilated, poorly heated. They sold because they were needed to relieve congestion in school districts and they did a real service. They had one point in their favor—they were durable. And because they lasted so long, many of them are in use today.

But judgments of the "portable school" should not be made by these old buildings. The new type of American Portable School is the child grown to a man. It is modern, comfortable, and attractive—warm in winter and cool in summer. In considering the school building, the rapidly-growing community should by all means investigate the new American Portable.

Write us or any agent for catalog and further information.

AMERICAN PORTABLE HOUSE CORPORATION
601-611 Alaska St., Seattle, Wash.

H. R. SHEPHERD
1218 First National Bank Bldg.
Chicago

THE ACME COMPANY
19-21 West Third St.
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AMERICAN SCHOOL SUPPLY CO.
1415 Chestnut St.
St. Louis, Mo.

SALES INCORPORATED
Easton, Penna.

HENRY WIGGS
1649 Nostrand Ave.
Brooklyn, N. Y.

EDUCATIONAL SUPPLY CO.
Painesville, O.

VIRGINIA SCHOOL SUPPLY CO.
Richmond, Va.; Charleston, W. Va.

W. I. JOHNSON
Waynesburg, Pa.

T. R. WOODBURN CO.
Terre Haute, Ind.

AMERICAN PORTABLE SCHOOLS

able time is required to adjust the matter. When such a bill is received and the person who unofficially placed the order is located, he or she should be required to pay the bill as if the material was ordered for his or her personal use.

It is true that emergency cases will arise which require immediate attention—these usually are requests for urgent repairs. In such cases the principal should call the purchasing department on the telephone, state the facts, and dismiss the problem from his mind, except for the making of a report when the work has been done or the materials delivered. The purchasing agent can place the order by telephone and the person with whom the order is placed is given an order number and advised that he will receive the order in the next mail. In this way, and in this way only, can an exact record be kept of all outstanding accounts.

Securing Prices

When purchases are made for material other than that carried in the central storehouse, prices should be received from at least two or three reliable dealers. This, of course, applies to amounts, say of $10 and up, to the limit at which purchases can be made without advertising, as covered by local laws. There are instances when it is impossible to secure competition. For example, if an Underwood typewriter is to be purchased and no other make of typewriter can be used, we are at the mercy of the vendor and he can fix the price to his advantage. It is policy, however, even in cases of this kind, to call for prices so that the vendor believes that unless his price is attractive he may lose out.

Inventories

Inventories should be taken at least once a year of all materials in the schools, and a proper record should kept of it. The stockkeeper's records should reveal at all times a perpetual inventory of the amount of stock on hand.

The purchasing department should establish a minimum amount of all supplies to be carried at all times in the storehouse. It is the duty of the stockkeeper to notify the purchasing agent when the stock is depleted to the minimum amount. To illustrate: Suppose the minimum amount of chalk is fixed at 50 cases. When this amount is reached, immediate notice should be given to the purchasing agent so that a reorder may be made at once to avoid shortage, and thereby delays in delivery.

SCHOOL BUSINESS OFFICIALS AT DENVER

(Continued from Page 68)

upon a superintendent of schools to desire a business department in charge of one who is thoroughly familiar with all of the business practices that enter into buying for a large corporation, the maintenance of the plant, and all like matters. A school system failing to have such a department headed by one of sufficient standing among the business men of the community to command their respect would certainly be upon a very weak foundation. Likewise, may it be said, that the superintendent should be sufficiently familiar with this phase of the corporation's affairs to know when the business department is functioning efficiently and to have proper judgment in the formation of policies guiding the department.

Is this too much to expect of a superintendent, of a schoolmaster? Let us see if it is possible for him to escape responsibility for business management under any circumstances. It is a common error among citizens generally to overlook the main source of cost in the current expense of any school system; namely, the instruction item. Any school system that has less than 75 per cent of its current-expense budget in the instruction item has something to explain, and any school system in which teachers' salaries constitute less than 65 per cent of the budget has something to explain. This is true because this item so largely represents the real purpose for which the schools are maintained. Now it follows that in any kind of school administration, whether the business department be coordinate with the superintendent or subordinate to him the main cost to the taxpayers lies outside of this department as far as current expenses are concerned, and for the administration of the instructional side of the school system the superintendent is as a rule responsible. It may be argued that this is an item which one cannot do much about or that it is easy to hit upon rules and regulations whereby the teachers' salary item can be economically administered without the exercise of much judgment or administrative ability. I do not agree with this point of view.

THEY CONTINUED TO CONFER.
Messrs. Womrath, Threlkeld and Gerwig at the Mountain Outing.

Some needed research that may arise in the business department of school systems was taken up by professor John G. Fowlkes of the University of Wisconsin. Dr. Fowlkes argued that there are important problems in the purchase and distribution of school supplies, in accounting and inventorying, and in the planning, construction, and maintenance of school buildings that have never been studied and that cannot be solved without scientific research.

Mr. Thomas W. Vinson, secretary of the National School Supply Association, took up the problem of research from the standpoint of the school-supply industry. He pointed out the fact that modern progress is making many old customs obsolete. It has, for example, largely discarded the injunction *let the buyer beware.* Industry considers as a part of the profit on any sale, the satisfaction of the customer and the prospect of a further sale. On the other hand, buyers are beginning to find it profitable to purchase on the basis of a reasonable profit for the producer or seller. Research in industry has been engaged recently in harmonizing the interests of seller and buyer, of distributor and consumer. Research is a pledge that the producer who undertakes it assures his own welfare through affording better values and better service to his purchasers. Research in school supplies and equip-

(Continued on Page 165)

BAY WEST

KRAFT PAPER TOWELS

"My Class is strong for Bay West Towels"

"—'cause they're so soft and swell to use! I'll bet they're the finest in the world. I vote for Bay West towels every time!"

Children love the delightful softness of Bay West towels. Hundreds of schools from coast to coast have found them more than satisfactory. Mail the coupon for Free Trial. Be sure to have Bay West towels in your washrooms when the fall term starts.

Bay West DUBLTOWLS—double sheet delivery, double the sheets per case, double the satisfaction. Bay West SINGLTOWLS—a single sheet towel service at low cost per towel. Bay West Dispensing Cabinets—a type for every purpose. Send for descriptive catalog of complete line.

Bay West Paper Co., Green Bay, Wis.

FREE TRIAL OFFER

Bay West Paper Co.,
Green Bay, Wisconsin

Please send me your De Luxe Dispensing Cabinet (shown above) and several packages of Bay West All-Kraft towels, both types, for free trial. (Carrying charges prepaid. No obligation involved.)

Name. . . . . .

Address . . . . . .

School . . . . . .

Now

while the classrooms are empty—
Put the FLOORS in condition.

Just two months in which to go over the schools from top to bottom and give them a thorough house cleaning for next fall.

To **make** sure your floors will get the proper attention you need more than the muscle of janitors. In this age, machines alone can produce the standard of cleanliness a school should have. FINNELL Scrubber-Polishers will put your floors to right more quickly than you have ever been able to do it by hand methods, and do a better job.

While primarily a waxer-polisher and a scrubber, the FINNELL also removes varnish and does light sanding. If you have floors in need of refinishing, you may find the FINNELL will pay its cost in these first months of service, and then give you an extra dividend by making regular cleaning easier and more thorough throughout the school year.

The time is short. On your request we shall be glad to wire our nearest representative to call upon you, make a survey of floor conditions in your building, and advise you as to equipment needed and estimate of cost. Only prompt action will bring you the necessary equipment in time to use the summer months most profitably. Address FINNELL SYSTEM, INC., 257 East St., Elkhart, Ind. Also Standard Bank Bldg., Ottawa, Ontario, Canada. Factories, Elkhart, Ind., Hannibal, Mo., and Ottawa, Ont., Canada. District offices in principal cities.

"I feel for the first time since I have been connected with this institution, that we have equipment that produces efficient and satisfactory results. Our main building can now be said to be clean and the cleaning is done at less expense than at any previous time."

Washington State Normal School,
Bellingham, Washington

It waxes
It polishes
It scrubs

FINNELL
ELECTRIC FLOOR MACHINE

Everyone is proud of the schools of today

EUROPE may revere antiquity, but America believes in sanitation, decoration, preservation. Particularly for schools.

L. Sonneborn Sons, Inc., are proud to have played some part in this program. All over America, schools and universities are kept beautified, and sanitary by Sonneborn School Products. The list of institutions using our products reads like a roster of the nation's schools.

Whether your building is new or old, Sonneborn Preservative Products are needed. Go over those described below and determine the ones that fit into your present requirements. We will gladly refer you to schools in your vicinity that use Sonneborn Products, so you can see for yourself the results they give and the dependable way they stand up in service.

SONNEBORN
School Products

For Concrete Floors
LAPIDOLITH TRADE MARK
the original concrete floor hardener

The concrete floors in your halls, basements and toilets should be made wearproof, dustproof, absorbent-proof. Lapidolith, the original concrete floor hardener, will do this. Floors so treated are free from dust and impervious to water or wear. They are easy to wash and can be kept sanitary.

LIGNOPHOL
for preserving wood floors

Lignophol will give new life to all wood floors by impregnating them with wood gums and oils that they sorely need. Dry heat and scrubbing take the life out of wood floors. They splinter, warp and check. They rot.

Lignophol makes them able to resist these conditions for years.

For Walls and Ceilings
CEMCOAT and SONOTINT
SCHOOL PAINTS

Cemcoat lasts longer and stays white longer than paint. It is a gloss enamel wall coating that reflects light like tile. Because of its extreme brightness, it is used mainly in recitation rooms, halls and auditoriums. Made so that it resists constant washing. Don't worry about finger marks or stains. Soap and water takes them off Cemcoat. Can be had in all colors. Sonotint is specially made for classrooms or the library. It is a velvety flat wall coating that reflects light without glare. As easily cleaned as Cemcoat.

On request, we will gladly tell you the nearest schools where any or all of the above products are in service, affording you the opportunity personally to investigate their worth.

L. Sonneborn Sons, Inc.

114 Fifth Ave., New York

COUPON

L. SONNEBORN SONS, Inc.,
114 Fifth Avenue, New York
Without incurring any obligation, I would like to talk with your representative about school building renovation.

Name .....

Address .....

S.B.J.-2

HARRIS UNIT MADE SCHOOLS

Strongest Buildings of them All

Light—Snug and Perfectly Ventilated

Comply With All Building Codes

EXCLUSIVE FEATURES

Patented from Foundation to Roof

Here's the solution of the school question for fast growing districts and the limited school board budget. These splendid buildings recognize no competition where quality of material, construction strength, and the welfare of the children are considered. No other buildings can give you our ingenious in-built features, for this construction is exclusive in Harris Schools and is covered by patents from foundation to roof.

FREE

Blue Prints and Specifications of Materials and Construction, with large sized Photo Prints of Schools recently built by Our Experts.

MODEL CLASSROOMS

for 40 to 400 Pupils in 10 Days!

Harris Unit-Made buildings are invariably specified when the bids are opened. Why? Simply because they give you stronger, better made, better looking buildings at by far the lowest prices. All made possible because they are built in the largest and best equipped factory in America, backed by our own lumber and millwork factories. And we pledge ourselves to give you the satisfaction you have a right to expect.

Our School Experts are waiting to help you!

HARRIS BROTHERS CO.

35th and Iron Streets

NEW YORK CHICAGO, ILL. DETROIT

Use Our Bureau of Information Freely!

GETTING FULL VALUES IN SCHOOL SUPPLIES

(Concluded from Page 40)

sent in, and of the prices quoted in the bid. A necessary detail of the order is the date of delivery and the means of transportation to be used.

Checking and Storing of School Supplies

For convenience and economy it is a good plan to have goods delivered to a central stockroom. The amount and the quality of each article must be checked up as soon as possible. The receiving clerk should compare the prices on the invoice with the prices quoted in the bids. If everything is satisfactory, the bills may be O.K'd and paid as soon as possible. Certainly the wise superintendent will be careful to take advantage of all discounts. The fact that a school board is prompt in the payment of its bills is invariably reflected in the service which it receives from the firms with which it deals.

Insuring Satisfactory Quality in School Supplies

If anything is unsatisfactory, in either quality or price, the best plan is to take up the matter with the supplying concern before any of the shipment is used. I would pay no more for goods than the price quoted on the bid; under no circumstances, would I accept an inferior quality of goods, even if an adjustment were offered. The schools lose if quality is not insisted on. Some time ago I ordered a drum of floor oil. It was to be of the same grade and kind which we use each year. When it came, it proved to be thinner and darker than the material formerly used. The janitors tried a sample on the floors, and it proved to be an inferior grade. The shipment was not accepted. I sent a sample to the firm which had furnished it. They admitted that a mistake had been made and that the oil shipped sold at 30 cents a gallon less than that which had been charged on the original invoice. The mistake cost the company money in freight charges, because the shipment had to be returned. If the shipment had not been checked in the stockroom, there would have been some poorly oiled floors and a loss of $15.50. It is the plain duty of the purchaser of school supplies to protect himself against such losses.

In conclusion, if the reader has in the past been careless about school-supply purchasing, it is well to begin now, and put his department on a businesslike basis. The school superintendent in a small-city system must of necessity assume a number of obligations and trusts. If he expects his constituents to have confidence in the ability of the purchasing department to carry on the work intrusted to them, it is incumbent upon the department to do its best to be worthy of this confidence.

DETROIT'S SCHOOL FINANCE PROBLEM

(Concluded from Page 43)

decreasing the term for which new bonds are issued, and applying any surplus over debt needs to the building of schools, a pay-as-you-go basis could be attained by 1960.

The gradual adoption of this new policy would require a tax levy of $317,119,578 until 1960, as against $275,370,078 under the bonding plan. However, under the former policy, there would be no debt outstanding, as against $135,547,000 outstanding in interest and principal under the bonding policy.

A study presented by the Detroit bureau of government research contends that "if the school debt were paid off over a 30-year period, the cost of school improvements after 1960 would be $6,000,000 per year from taxes instead of $10,185,000, an annual saving of $4,185,000."

The adoption of the modified pay-as-you-go plan will gradually increase the margin of indebtedness permitted under the New York 7-per-cent law, until in 1960 it reaches $93,000,000.

Paying for improvements from taxes as needed will doubtless result in greater economy on the part of the public and their officers, than when such improvements are secured from bonds, the cost of which is not immediately felt.

LET US BE THANKFUL

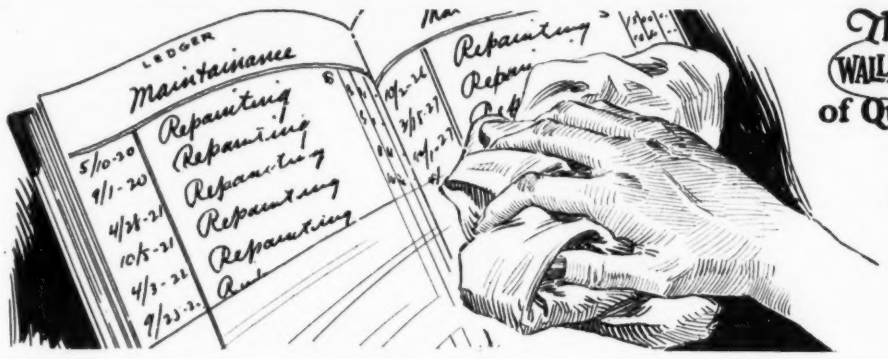
(Continued from Page 44)

care of administration falls upon the long-suffering board members. And have these board members functioned well, in spite of adversities and difficulties which have discouraged, and dispelled confidence time and again?

Progress Which Must Be Maintained

In answer, let us note the vast program of public education which has come to exist as an integral part of our civilization. There is no question concerning the breadth of its scope; neither is there a question in the minds of most people concerning the successful functioning of the program as a whole. And the fact must be acknowledged as a truth that this wonderful structure is due in large part to the efforts of board members throughout our Nation, down through the decades of the past. Democracy instituted the system, which has risen to the heights demanded and progress has been maintained.

In order that this condition might be attained, board members have laid aside personal feelings and opinions and have worked with a vision of what their positions really mean in the success of the schools and the futures of the children. And the results have been commendable without a doubt. Anyone who observes can appreciate them. But, without such vision and purpose, such understanding of the absolute necessity of education, both as a means of imparting the heritage of the past and of



THE SMUDGE TEST
Any Hockaday representative will show you how easily ink, pencil, crayon or other marks can be washed off a Hockadayed slab of wood.

Right Off the Books!

THE hand that washes dirt off a Hockadayed wall erases repainting costs from your ledger page for many years to come.

For Hockaday will stand impregnable for years — untouched by common plagues that make repainting necessary. Its hard, non-porous surface withstands the attack of time and corrosion. Its bright freshness is brought back from time to time by simply washing with water as you wash your windows.

Such advantages bring down upkeep. They effect huge savings in large buildings, where repainting costs are a considerable part of maintenance. Investigation will prove that a big percentage of efficiently managed city buildings have Hockaday armor on the walls.

Get, and test, a can of Hockaday paint. Try it out on a board; test its washability. Then specify Hockaday when you're ready to paint or repaint. Further information contained in a free booklet, "Paint Mileage," will be sent you on request.

HOCKADAY, Inc., 1823-29 Carroll Avenue, Chicago

HOCKADAY
THE WASHABLE PAINT FOR ALL INTERIORS

developing the abilities of our youthful members of society, our educational system would have failed to a marked degree.

So, we find board members in every community in the land functioning quietly, but none the less forcefully, that our schools may be well administered. That such may be true, they do not maintain personal grudges against executives and teachers, they do not forget to recommend successful employees who may wish to locate elsewhere, and they do not insist upon the employment of personal friends who may attempt to exert a "pull." Neither do they criticize and condemn teachers who are impartial in their treatment of pupils, even if board members' children, for they realize that such an attitude is not of the spirit of democracy.

Supporting the Executive

They do not feel that "election to the board" entails unlimited tenure, but are willing to step out when another is elected without assuming a critical attitude—a destructive attitude—toward the schools and their administration in general. They realize that an executive is entitled to aid in the selection of the teaching corps for which he is expected to be responsible, and so they allow their principal or superintendent to counsel and recommend.

And they realize, too, that the business of the schools must not be "peddled" promiscuously about, but cared for judiciously, if the schools are to profit thereby. They are aware that politics and successful, efficient school administration may not go hand in hand, and so attempt to minimize such influences.

In short, school-board members have evolved a wholesome, intelligent manner of administration, commensurate with the inherent responsibilities of their positions. As they function and assimilate progress, so do our schools function and our children benefit. Our debt to them is great; let us be thankful that it is!

HOW PUEBLO SCHOOLS REDUCE SCHOOL-BOOK COSTS THROUGH A BOOK REPAIR DEPARTMENT

(Concluded from Page 46)

quite economical when compared to an average charge of 55 cents per book, plus freight and drayage, which commercial binders have charged the district.

The books repaired in the shop, while not as neat in appearance as those bound by commercial binders, nevertheless, are stronger and entirely satisfactory in use. Tests of the strength of the backs have been made to determine how well the work has been performed. Reports from the school principals show that the book department is appreciated because it permits the schools to keep their books in fine condition at all times and readily available for use.

PERSONNEL MANAGEMENT IN SMALLER SCHOOL SYSTEMS

(Concluded from Page 48)

are made welcome to use all the school and office facilities; such as office-desk space, typewriters, mimeograph, etc. The small size of a school system is a factor to be taken advantage of in that it makes possible the practising of a closer, more socialized, and more democratic relationship.

17. In the small community the school teachers often have to arrange for a large part of their social life and needs. This may be done by having such occasions as:

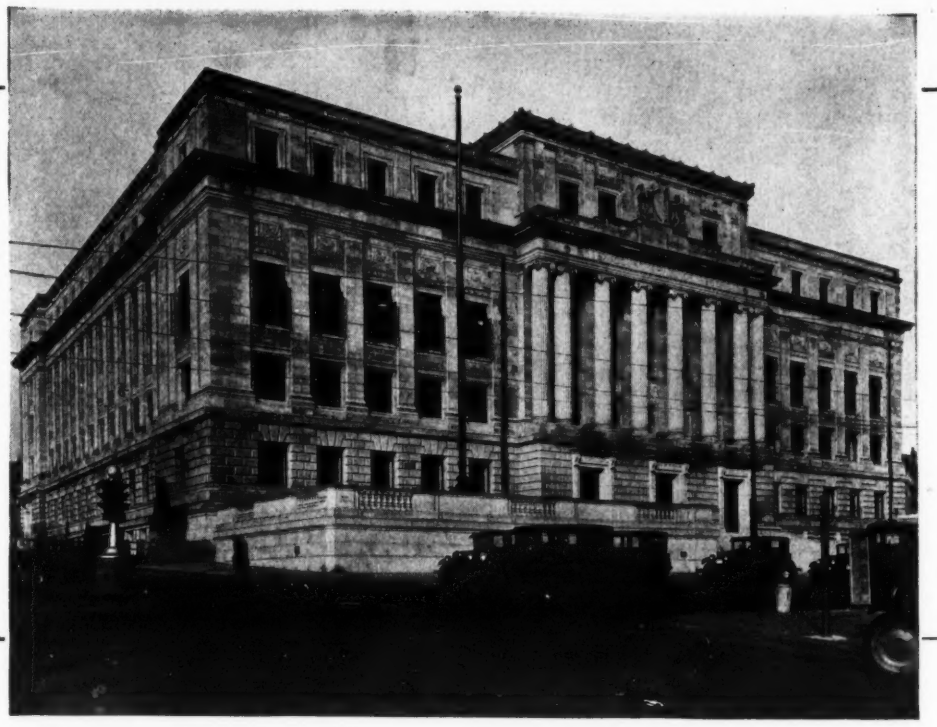
a) After-school picnics.
b) Parties at the superintendent's home and at the homes where the teachers stay.
c) Trips to scenic points of interest, etc.
d) Teachers-club bridge parties.

This policy, then, aims to eliminate from the small-school system in which the teachers and administrators are brought so closely together, many of the disadvantages of the traditional administrator-teacher situation. It aims to substitute, instead, a friendliness, a spirit of cooperation, and a common viewpoint in common problems, in place of the tendency toward a too outward suppression or domination by school authorities. It aims to develop and set up in advance a group attitude or atmosphere which is sufficient to aright almost any situation as it arises. A free teacher participation is encouraged to the fullest extent in all that there is about the school, rather than the limitation of the teacher to the four walls of a classroom where she must wait for orders which are often not of the highest order. The small-school administrator should present himself as a leader of and worker among his group; rather than as an authority on all matters and one whose main function is to give orders and to check up on the responses of the others. Rather than having to continually sit as a judge for the petty difficulties of a never-regressing present, he should be several steps out ahead keeping so effective a policy in existence as will reduce to a minimum the difficulties arising in the present as it passes.

ASSOCIATION ELECTIONS

George G. Mankey, principal of the Nutley, N. J., high school, was elected president of the New Jersey State High School Conference, succeeding Clara S. Burrough. Other officers chosen were: Vice-president, H. A. Bartholomew, Summit, N. J.; secretary, W. H. Woodside, Summit, N. J.; treasurer, William H. Wythes.

—Wisconsin employers are required by law to pay double or triple compensation to children injured while illegally employed, according to the nature of the violation. In 1927, extra compensation payments ranged from less than $20 to nearly $5,800, and the aggregate amount of such compensation was more than $16,000.



Essex County Hall of Records, Newark, N. J.
Architects—Guilbert & Betelle.
General Contractor—Niewenhous Co., Inc.

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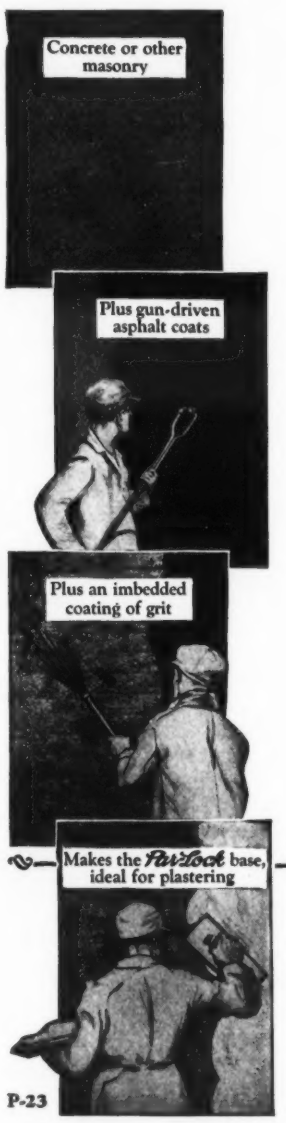
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PROTECTED not only against fire and theft, but also against deteriorating effects of dampness, the priceless public records of Essex County, New Jersey, repose in the vaulted security of the new Hall of Records.

Everyone of its extensive series of stone concrete vaults is directly plastered within over the protective Par-Lock Plaster Key (Specification "B").

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CLEVELAND, 218 Hunkin-Conkey Bldg.
COLUMBUS, 751 South Cassingham Rd.
DETROIT, 2544 First National Bldg.
KANSAS CITY, MO. 2035 East 19th Street
MINNEAPOLIS, 434 Builders Exchange
NEWARK, N. J., 24 Commerce Street
NEW YORK CITY, 50 Church Street
PHILADELPHIA, 1700 Walnut Street
PITTSBURGH, 614 Bessemer Building
SCRANTON, PENNA. Cedar Avenue
ST. LOUIS 906 Chemical Building
TORONTO, 2258a Bloor Street, West
TRENTON, 339 Broad St. Bank Bldg.
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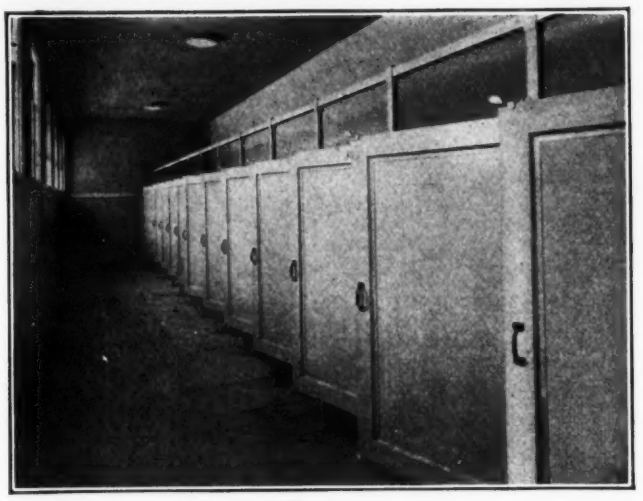
WEISTEEL
TRADE MARK WEISTEEL



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Emmons School, Huntington, W. Va. Miss Alice Freeman, Principal, writes: "Just a few lines to tell you how well we like the Kernerator. Our janitors say it is the finest thing they ever saw for disposing of garbage, rubbish, etc. We would not be without it. It has been in use for four years and is still doing fine."

Away with Garbage and Rubbish Accumulations in the *Modern* School!

Filthy, unsanitary garbage cans and fire hazardous rubbish piles are things of the past when a Kernerator is installed. Garbage, papers, sweepings and refuse of all kinds are simply dropped into handy hopper doors conveniently located on each floor and fall to the combustion chamber in the basement. An occasional lighting burns the air-dried accumulation—no fuel is required.

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Here's What Kernerator Assures:

1. Overcomes the chief cause of 75% of school fires through trash piles in the basement.
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4. Provides for instant disposal of refuse from cafe and cafeteria.
5. Makes it unnecessary for foul-smelling garbage wagons to call for garbage.
6. Provides more sanitary surroundings, and greater health assurance.
7. Costs nothing to operate or maintain—requires no fuel—an occasional match burns the waste and air dried garbage.

There are Kernerator school models as low as $250 and the masonry adds but little more when the regular chimney is used. Send for our new illustrated school booklet which gives valuable information on uses and installation of Kernerator.

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THE CHIMNEY-FED INCINERATOR

Garbage and Waste Disposal

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QUIET
The fact that Ambluco Stair Treads and Landings are practically noiseless makes them particularly adapted for schools. Unlike a great many natural stones they do not resound from foot steps nor do they become loose and rattle like artificial and metal treads. Such noises are often greatly magnified by the acoustics of a building with the result that the attention of the pupils is distracted from their work. The quietness of Ambluco Treads and Landings alone warrants their use, even without their many other superior qualifications.
SANITARY DURABLE
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Background illustrates a typical installation of Ambluco Treads and Landings in a public school.
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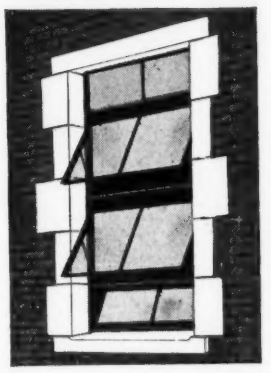

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They're NEW

Distinctly different in design and more sturdy in construction, these *new* Fenestra School Windows will add architectural beauty and much-to-be-desired conveniences to your new school buildings.

Write today for complete details—a new catalogue is ready for mailing.

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Factories: Detroit, Mich., Oakland, Calif., and Toronto, Canada.

WHAT THE PRINCIPALSHIP SHOULD BE

(Concluded from Page 52)

with large supervisory units, for the elementary principals will largely eliminate this element as a factor in making a profession of the elementary principalship.

Undoubtedly the policy of the superintendent in selecting and promoting principals is an important factor in the development of the elementary principal to the status of a professional leader.

Another large factor in raising the status of the principalship is the policy of the superintendent in the organization of the system, and the place that he gives the principal in the administration and supervision of his school. If the superintendent is in control of the system in the capacity of leader, as he should be, his policy will largely determine the type of work that the principals will do. If he overburdens the principals with routine work, if his requirements and checks emphasize mainly the routine and managerial duties, if he provides for undue expenditures for supervision from the central office and leans heavily upon that type of supervision, if he gives grade supervisors or special-subject supervisors a place of importance, as determined by rank and salary, above that of the principal, if his policy includes one or more of these, he will do much to hinder the development of the elementary principal to the status of a real supervising principal. In this connection a good illustration comes to mind. A principal of a large school in a school system remarked to the writer that the primary supervisor had issued a rule that pupils in the grades under her supervision should not raise their hands. The writer remarked that such a rule would seem to be an infringement upon the legitimate field of authority of the principal. The answer was to the effect that the primary supervisor was supreme. The superintendent was evidently not putting into effect a policy with reference to the relation of the principal and the other supervisors, which would make the principal the chief supervisor of his school with authority commensurate with his responsibility.

On the other hand, if the policy of the superintendent is to reduce the clerical and routine duties of the principal to a minimum, to emphasize primarily in his requirements and checks the principal's plans of scientific organization and supervisory accomplishments, to provide only the necessary special experts to advise and assist the principal when needed, to give no supervisor or director a position in rank or salary above that of principals of large schools, to give the principal a place of supremacy in his school and hold him responsible for results, and if his policy sets the proper standards in selecting and promoting principals and providing adequate salaries, the road toward the development of a profession of elementary principalship will be clear.

The Principal's Professional Responsibility

The Department of Elementary School Principals of the N. E. A. is one of the strongest and most active departments of the Association. It is performing a great service in advancing the interests of elementary-school principals in the direction of raising the status of the principal to one of real professional leadership. A number of state educational associations have departments of elementary principals and there can be no question concerning the principal's opportunity and obligation with respect to membership and active cooperation. The major purpose of such organizations is the improvement of the principal as an expert supervisor and scientific organizer.

It behooves the principal to be loyal to the administration under which he serves, except under extraordinary circumstances in which to be loyal would be to compromise with clearly unethical forces. In spite of any handicaps in the policy of the superintendent, and in the conditions under which the principal is obliged to work, he should endeavor to be a real professional leader, the chief and most capable supervisor of his school, by virtue of his earnestness, devotion to the cause of education, knowledge of scientific procedures, cleverness in getting results, and personal magnetism in making friends.

PRINCIPLES GOVORNING THE SELECTION OF TEACHING MATERIALS

(Continued from Page 66)

Teaching materials should be ordered well in advance of the time of their intended use. As a rule, very little is gained by delaying the purchase of materials until three or four days before they are needed in the classroom. Teachers appreciate the thoughtfulness of superintendents and school boards in having the tools of instruction on hand ready for use. Inventories and requisitions should be made at a definite, stated time. Provision should be made for increase in the enrollment, in order that all pupils may be supplied at the proper time.

Confidence a Factor

The school superintendent should have the confidence and support of the school board in the selection and purchase of teaching materials. It is a good business policy on the part of the school executive to maintain healthy financial relations with his board which is a sort of business agent between the public and the school system. No school-board member or superintendent wishes to be charged with extravagance, bad business judgment, waste, or "graft." A full knowledge of the need for certain materials and the use to be made of them will make for better understanding and closer cooperation.

Makes every worker "two-handed"

Painting, repairing, cleaning — all maintenance jobs are completed faster and at less cost in schools using Dayton Safety Ladders. On the broad platform of the Dayton Ladder, protected by high guard rails, the workman uses both hands freely, works rapidly and confidently. Plenty of room for tools and pails, no time lost running up and down.

The Dayton is made of sturdy aeroplane spruce, with wide-spread, steel-braced legs. Cannot tip, wabble or collapse. Permits close work against walls, is light to carry. Sizes 3 to 16 feet, with folding auxiliary step for extra height. Moderately priced.

Type "B" Dayton Ladder
A "little brother" to Type "A" shown at left. A general purpose, popularly priced safety ladder. Seven sizes.

Write Dept. ASBJ-7 for complete information.

DAYTON Safety Ladder
(Patented)

THE DAYTON SAFETY LADDER CO., 121-123 West Third Street, Cincinnati, Ohio
Stock carried by Pacific Coast Representative, E. D. Bullard Co., Los Angeles and San Francisco

In the matter of appropriation, while it may be true that occasionally a board member will err on the side of overcaution, yet it is highly probable that he will be generous in proportion to his faith in the efficacy of education, and his confidence in the business integrity of the superintendent. The superintendent should so administer the expenditures that the results obtained will speak for themselves as convincing evidence of sound business judgment. His recommendations, when acted upon by the board, should not only reflect credit upon himself, but should merit an expression of appreciation and commendation from the public for the excellent management of the schools by the board.

In conclusion and by way of summary, teaching materials should be selected for the definite purpose of aiding instruction; should be adapted to the maturity, capacity, and needs of the child; may be found advertised in the leading schools journals because of their excellent satisfaction; economy and efficiency should be carefully considered in their purchase and use; the amount available for their purchase is governed by the school budget; all materials should contribute some definite value to the course of study; should be ordered in ample time for use, and last, but not least by any means, there should be the closest cooperation between the superintendent and the board in their selection and purchase.

PRACTICAL VENTILATION FOR SCHOOLROOMS

(Continued from Page 54)

be closed at night to prevent unnecessary heat loss.

For still larger schools, where the diversified kinds of rooms, many stories, difficult surroundings, danger of noise from open windows, desirability of air filtering devices, etc., seem to warrant mechanical ventilation, it is believed that the desired condition would be obtained by an arrangement like Figure 8. One supply fan may be installed per room, or many rooms may be served by one supply fan. The vent openings, Figure 8, may be near the ceiling, though it is not entirely certain that floor openings would not serve as well.

With this scheme, the room effect presumably will be consistently as favorable as that intermittently to be obtained with window-gravity inlets, even when the latter is operating under most favorable conditions and there is a gentle wind pressure coming in through the window. With this mechanical system, the supply of unheated air is always positive, whereas with the window inlets it is often questionable or negative.

In other particulars, the arrangement for mechanical air supply as per Figure 8, simulates that for uncontrolled air supply. The radiator divisions, the shields, deflectors in Figure 8, are arranged to give the same effect as those in Figure 4. It appears that the mechanically delivered supply of unheated air, entering the room in such manner as to insure very even diffusion, should prove more satisfactory in

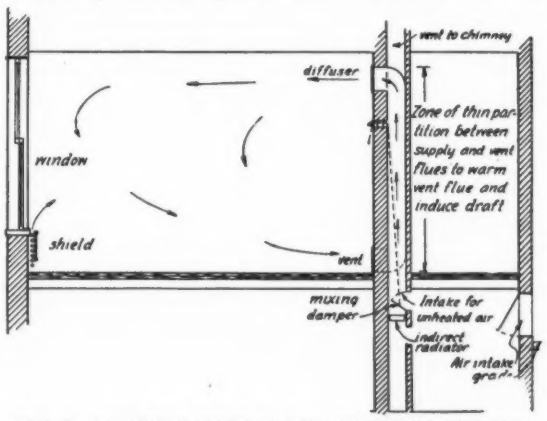

FIG. 7. GRAVITY DIRECT AND INDIRECT SYSTEM.

nearly all school buildings than will the gravity inlet at the window, affected as it must be by every variation in wind.

The arrangement shown in Figure 8 is, of course, easily susceptible of combination with all of the conventional modern devices for air conditioning peculiarly adapted for central fan systems, and which are not adapted to the window inlets or to the gravity indirect systems. With the mechanical supply the air may be cleaned of dust, or be ozonated without heating it. There may be tempering heaters for use in very cold weather, and after tempering the air, if proved desirable, artificial moisture may be introduced. If the air volume and movement shall be proved to have gone to the other extreme from the present 30-cubic-feet-per-minute-per-pupil practice so that more movement is needed, part of the air may be recirculated. From the standpoint of ultimate flexibility and adaptability the scheme shown in Figure 8 commends itself.

The admission of some unheated air is now being achieved by many of the unit-type ventilators, with their mixing dampers. Some question is raised, however, as to whether one unit ventilating machine per room gives sufficient air diffusion, and the Syracuse studies suggest that one machine may give so high an outlet velocity as to favor rather than reduce the prevalence of respiratory affections.

It is possible that some part or all of the mysterious effect for which engineers have been seeking the cause may be due to the physical stimulation which results from rather sudden temperature variation. The designers of automatic temperature control are ready to furnish thermostats which will accomplish any desired cycle of variation. It is a simple and reasonable mechanical or electrical task to arrange for such a variation, and it is hoped that there may be

(Concluded on Page 161)

Why *Philadelphia* Schools *use so much* Barreled Sunlight

Three of the many Philadelphia schools that have chosen Barreled Sunlight for interior painting.
Top—The John Paul Jones Junior High School
Center—The Andrew J. Morrison School
Below—The Hamilton-Disston School

GOOD LOOKS? That's a part of it, to be sure. Barreled Sunlight has a rich enamel finish with a "depth" peculiar to itself.

Resistance to discoloration? Certainly an important factor — for Barreled Sunlight is *guaranteed to remain white longest*.

But the big reason why Philadelphia's schools have used thousands of gallons of Barreled Sunlight, in white and light tints, is that it *best combines all the qualities which make for spotless cleanliness and adequate lighting* over the longest period of time without repainting.

DIRT can not become embedded in the flawlessly smooth surface of Barreled Sunlight Gloss. Smudges are easily washed off — with no harm to the finish itself.

Just the right soft lustre for adequate working light, free from glare.

And no flaking or scaling, even after long service!

Economical not only because it lasts so long, but also because it is so opaque that fewer coats are required, and flows so freely that labor costs are less.

For places where less than the full gloss is desired, Barreled Sunlight Semi-Gloss is widely approved.

And for the flat effect sometimes preferred on walls of well-lighted rooms, Barreled Sunlight Flat meets every requirement. Extremely attractive. Washable, too—though naturally less durable under constant washing than the Gloss or Semi-Gloss.

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U. S. Gutta Percha Paint Co., Factory and Main Offices, 44-G Dudley Street, Providence, R. I. Branches: New York — 420 Lexington Ave.; Chicago — 659 Washington Blvd.; San Francisco — 156 Eddy Street. Distributors in all principal cities. Retailed by over 7,000 dealers.

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Please send me descriptive literature and sample panel painted with Barreled Sunlight. I am interested in the finish checked here—

Gloss ( ) Semi-Gloss ( ) Flat ( )

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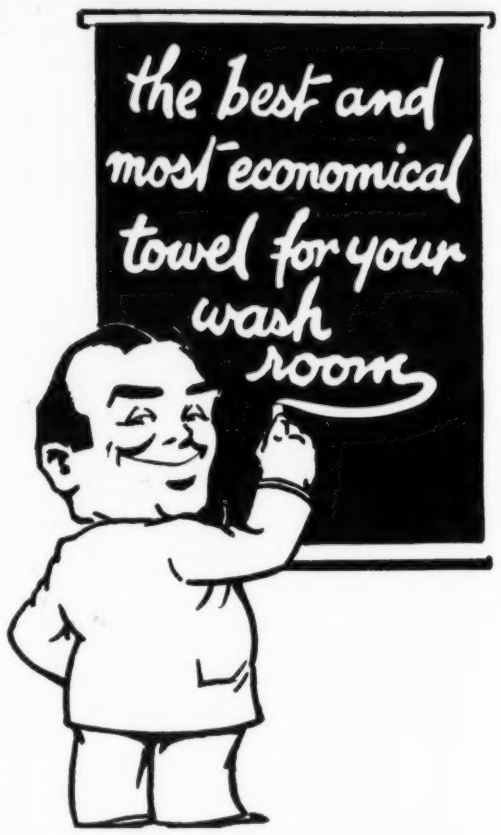
City ..... State .....



The Public Service Paper Towel

is BEST *and* MOST ECONOMICAL *for your washrooms, for these reasons:*

MADE of specially selected paper pulp, this towel is firm, yet soft and absorbent when moist; it is almost cloth-like. One or two will dry the hands perfectly; they are economical.

The "hem" or doubled lower edge of the towel prevents wet hands from tearing it in withdrawing from the cabinet—this makes it convenient and precludes wastage from torn towels. No other make of paper towel has this "hem."

The PUBLIC SERVICE cabinet which is furnished with these towels has no mechanism whatever, thus is never out of order. The towels pass out through a slot, one at a time, each pulling out the edge of another into position for grasping. The system prevents wastefulness and aids economy.

Full information, including samples of cabinets and towels, and address of your nearest supplier, gladly sent on request

National Paper Products Company
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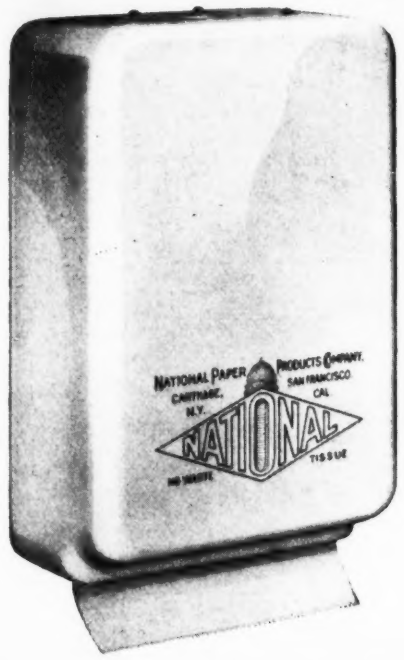
Public Service
PAPER TOWELS



A Superb Cabinet

with Perfect Toilet Tissue

IN THE NEW NO-WASTE cabinet, with the perfect NO-WASTE toilet tissue, buyers will find a combination leaving nothing more to be desired, either in cleanliness and beauty or in economy.

The new cabinet is of steel with porcelain finish. The steel insures endless durability and freedom from breakage. The beautiful porcelain finish cannot be written on nor defaced. A damp cloth cleans off dust and dirt in a jiffy. The cabinet has no mechanism and can't get out of order. The paper is drawn out through a slot in double sheets, with just enough resistance to compel economy. The cabinet can be locked to prevent pilfering. The price is very reasonable.

NO-WASTE tissue is a perfectly clean and sanitary paper, made from selected paper pulp. It is remarkably soft and absorbent, yet firm; will not tear. It is preferred by thousands of users. Efficient and economical.

NO-WASTE
TOILET TISSUE

Distributed by leading wholesalers in all principal cities. Details and name of nearest distributor will be mailed on request.

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UHL STEEL

Strong, Light, Durable, Handy, Sanitary and Comfortable

Cafeteria Furniture

Steel furniture, with all its advantage, designed directly **to meet school conditions;** built **for specific school uses;** proved successful **by years of actual use** in schools—there you have the story behind this line of UHL **Steel**

This test shows strength of back fastenings at seat and rigidity of bracing of legs and their fastenings to seat.

Chairs, Stools, Tables

UHL **Steel** chair frames are built of U-Shaped channel steel, welded into one solid unit at points of greatest strain. They are wonderfully strong without being clumsy; durable without being heavy; comfortable yet economical of space; handsome in style without loss of sanitary simplicity in design. The same features of excellence are incorporated in our other recommended items.

No. 156 "LinUhl" Chair

Standard Equipment in Hundreds of Schools and Industrial Plants

There are thousands of our No. 156 Chairs now being used in School Cafeterias. This is only one of our many popular items. Full range of styles, sizes, and finishes to select from.

Our complete catalog describes many other items which fill special school needs. Let us send it to you for your information files.

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. . . . . .

(Concluded from Page 158)

developed, ere long, some experiments to check this possibility. The location of the thermostats in the rooms is of vital importance with any of these cold-air-introduction schemes. So far is known the thermostats need to be where the air current passes over them as soon as the two currents, warm and cold, have met.

There is no great probability that it may be found expedient to install on the window inlets, of the original New York Commission scheme (shown in Fig. 4), perhaps at the tops of the inclined glass deflectors, automatically controlled balanced dampers, so that the thermostat will close or open these dampers simultaneously with its manipulation of the supply valves to the radiators. It must not be forgotten that window-inlet ventilation requires

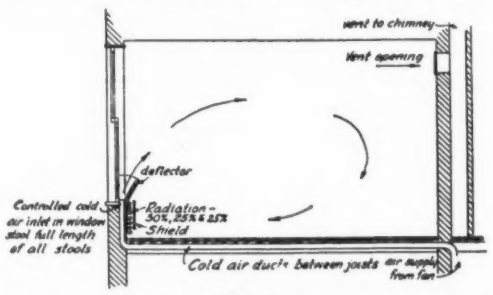

vent to chimney
Vent opening
deflector
Controlled cold air inlet in window stool full length of all stools
Radiation - 50%, 25% & 25%
Shield
Cold air duct between joists air supply from fan

FIG. 8.
MECHANICALLY CONTROLLED COLD AIR INLET.

that the radiator under the window shall have enough heat output to temper, and combined with the effective heat output of the pupils, ultimately to neutralize the cold intake.

The original report of the New York Commission has been interpreted as setting forth arbitrary rules for the size of classrooms, although it does not require specifically that the room sizes shall be increased. If window ventilation does give superior health results, it gives these results because of some single inherent physical property of window ventilation, or because of some group of such properties, and certainly these properties do not appear to depend on any particular minimum space-per-pupil requirement.

In a general way, the cost of ventilation, whether mechanical or gravity type, is proportional both in first cost and in operating cost, to the amount of air handled. No window or gravity system of ventilation can be depended upon to handle any specific volume of air. Taking into consideration the equipment required for consistent window-supply ventilation, there is no very great difference in first cost between it and a mechanical system. In this consideration the commission has demonstrated conclusively that in order to be operable, classrooms with window-supply ventilation must have excess radiation, automatic control, deflectors, vent flues which are positive in action, and should have radiator shields.

It is well known that if a consistent and specific volume of air must be handled most economically, that the necessary energy to move the air will cost less and be more satisfactory via an electric motor than via a heated chimney. Granted that around 67 degrees average temperature is to be maintained in the classroom, we must expend for ventilation whatever amount of heat is required to raise the entering air to a temperature which will be comfortable to the pupils. When considering relative differences in cost of labor for operating these various types of ventilation, time studies should be made to determine the influence on teaching efficiency of the more or less constant adjustment of windows and dampers required by the gravity-window systems, as well as the actual money value of the time given by the teachers to adjusting ventilation.

The deduction can be made reasonably, regarding first costs and operating costs, that there is not enough difference between any of the three general methods described, in the two building-size zones where they overlap, to be of any particular moment. As soon as further study shall have developed specific requirements, or shall have divulged the much sought mysterious influence, a coherent scheme for obtaining that influence will be available quickly.

As of the winter of 1927-28 the foregoing schemes are believed to express, each in its zone, ways in which to achieve the mysterious influence. If it can be demonstrated to attain equal health results, the mechanical arrangement, with its positive air delivery and accurate control, coupled with its diffusion virtues and its flexibility, is believed to be the most reasonable and logical type for ordinary investment.

THE SELECTION, PURCHASE, AND DISTRIBUTION OF SCHOOL SUPPLIES

(Continued from Page 50)

to catalogs of 32 pages listing the school supplies furnished. Roughly classified these forms concern themselves with:

1. Estimates of supplies needed by teachers and principals.
2. Bidding lists sent to dealers and supply companies.
3. Purchase order blanks.
4. Forms for acknowledging purchase orders.
5. Forms for checking shipments of supplies.
6. Teacher's and principal's requisition blanks.
7. Inventory forms.

Who Makes Supply Estimates?

The usual practice in the large school systems is to send to the principal or teacher a list of supplies furnished in the school system, with the request that she estimate the quantities needed in her room or building for the next year.

These forms are returned to the office of the city superintendent, the quantity of each kind

100% Safety Assured!

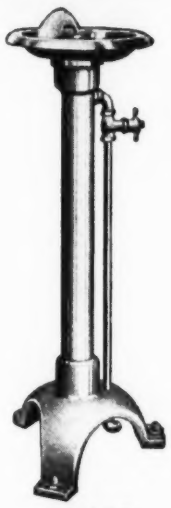
All the words in all the dictionaries can not describe the dependability of this fire escape so well as this one simple statement—

no life has ever been lost in a Logan Spiral Slide.

Write today for all the facts on the fastest, safest, *surest* device ever developed for exit from upper floors.

Logan Firescapes

LOGAN CO.
Incorporated 1885
300 N. Buchanan Street
LOUISVILLE, KY.

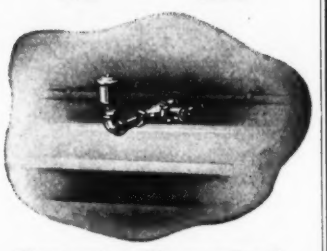


"Sandow" Self-closing Fountain

"Mur-Made" all brass Wall Fountain

"Sampson" stop cock

"Simp-San" Bubbler Head



Showing how "Sampson" self-closing cock and "Simp-San" Bubbler Head may be used in combination.

Murdock Outdoor Bubble Font—Anti-freezing.

MURDOCK

Drinking Fountains and fixtures.

Built for hard service. Made principally of Bronze and Brass—practically unbreakable—therefore especially adapted for schools. In their use there is uninterrupted service and freedom from annoyance and repairs.

The Murdock Outdoor Bubble Font has solid bronze bowl and bubbler head, chromium plated. The inner works are entirely of brass. The construction permits removal of inner works without digging up. The Font is self-draining and anti-freezing. Angle stream is regular. 513 cities and towns have installed this Font in the past six years.

Write for booklet "What To Know About Outdoor Drinking Fountains"

THE MURDOCK MFG. & SUPPLY CO.
CINCINNATI, OHIO
Since 1853.

of supply or textbook is totaled for the city, and a bidding list is made up for submission to dealers and supply companies. In some cities, a more elaborate form combining an annual inventory and an estimate is used. The best of these combined inventories and requisitions gives a complete record of the movement of supplies through a school building, together with an estimate of the ensuing year's needs. A still further elaboration furnishes an allotment sheet in addition to the list of supplies to be used in estimating needs.

Bidding Lists

Following the compilations of supplies requested by teachers and principals, a list of supplies needed is prepared and sent to dealers, with the request that they indicate the price for which they will furnish each article required. Wherever possible, standards of quality and unit quantity are indicated in the request for bids.

These bids are opened by the superintendent, business manager, or by the supply committee of the board of education and the award is usually made upon the lowest bid per item, although this is not always the method. Sometimes bids are accepted by sections, and not infrequently, the lowest bidder on the entire list is awarded the contract. The award of contract is usually made by the board of education, or by a standing committee of the board of education.

The Purchase Order

Many school systems do not have a central storeroom. Often they are unable to house the supplies needed for an entire year. Although the usual custom is to place a large portion of the annual order in the months designated in an earlier part of this report, it is necessary to send in additional purchase orders from time to time. A majority of the schools reporting use a printed form for making such purchase orders.

When the shipment of supplies arrives, it is checked against the invoice and placed in the central storeroom, or distributed to building storerooms in the various parts of the city. A check list of the supplies received and delivered is sent to the purchasing agent or the city superintendent where continuous inventories are kept. The amount of each item is recorded on the bin inventory card and upon the inventory card in the office of the purchasing department.

Requestioning Supplies from the Storeroom

In many cities, a special form is provided for the building principal to be used in making requisitions from the central storeroom. Such a form facilitates complete records of pupil and building-supply costs. One copy is retained in the storeroom; one is retained by the principal; and one copy goes to the office of the purchasing agent.

Inventory Forms

Inventory forms vary exceedingly with no standard practice observable. Inventory by items is used in one city, the record for each item being kept on a 3 by 5-in. card. One of the most complete and satisfactory inventory records is that which is combined with a requisition form. The disadvantage of such a form is its bulkiness and the fact that it does not contain the total records for the city. A perpetual inventory record for each item of supply kept in the central office showing requisitions and deliveries, with a column for amount on hand, gives the most accurate record for inventory purposes, and makes possible the ordering of additional materials before the present supply is exhausted.

Conclusions

It is obvious that such a study can do little more than state present current practice. It is further noted that few or no standards obtain. Little attention, except in our largest cities, has been given to the problem of school-supply purchase and distribution.

While no final word can be pronounced, certain recommendations grow out of the varied practices of schools. These recommendations suggest future inquiries and scientific determination of school-supply standards.

1. Cities could standardize the list of supplies which they purchase. These standards should be expressed in terms of
   a) Items of supplies furnished.
   b) Unit quantities furnished per pupil, per room, etc.
   c) Quality of supplies purchased.
2. Annual estimates of supplies needed should be prepared by the proper official by March 1 of each year, in order that supplies may be delivered when they can be most readily cared for, and in order that supply companies may estimate their own needs.
3. Orders should be placed with supply distributors by April 1 for summer delivery.
4. When possible, the supply order for the entire year should be placed at one time. Costs of supplies increase with small shipments.
5. The person preparing the supply list should have definite knowledge of modern trends of education.
6. Architects should make provision for small storage rooms in plans of new school buildings. Participation in a number of school-building surveys by the investigator has convinced him of this need.
7. Supplies for at least a month should be housed in storage rooms in each school building.
8. In every city, accurate cost data for each item and type of supplies should be kept. Such data, together with information on pupil and room allotments, will make possible placing in the annual budget an amount adequate for the supply needs of the school sytem.
9. The tremendous range of cost data secured, points to the need of a careful study of this factor. Many schools are not furnishing a sufficient amount of supplies to their pupils. Other schools are wasting supplies. The practice of setting up a lump sum for supplies is indefensible as a budgetary procedure and negligent of the needs of pupils and teachers.

(Concluded on Page 170)

Floor Cleaning Compounds
that save money and save floors

THE PROPER care and treatment of floors demands the right cleaning compound for each type of flooring. It's not enough that it shall clean thoroughly and rapidly—but it must have no injurious effect on the floor itself. Many costly floors have been ruined by strong acids, alkalis or abrasives.

Our Floor Department

will help you. Every cleanser we offer serves a specific need and positive uniformity is assured. We invite you to submit your problems in floor cleaning to us, and we'll suggest the right cleanser to assure satisfaction.

Rex Pine
Liquid Scrub Soap
saves time and will not streak floors. Convenient to use. Has fragrant pine woods odor.

Rex Potash
Liquid Scrub Compound
The ideal cleaner for Tile, Marble, Mosaic and Flint-Tile floors. Removes, prevents discoloration.

Lino-San
Liquid Linseed Soap
for soft texture and painted surfaces. Ideal for cleaning walls.

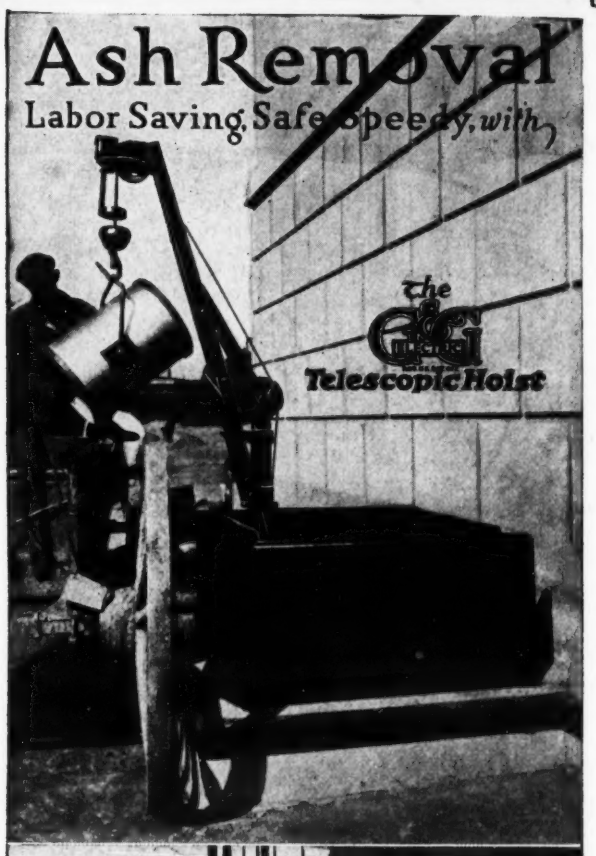
Liqua-San
Liquid Toilet Soap
is made of purest materials and cannot smart or burn the tenderest skin. Costs less than bar soap in actual use. Dispensers at cost.

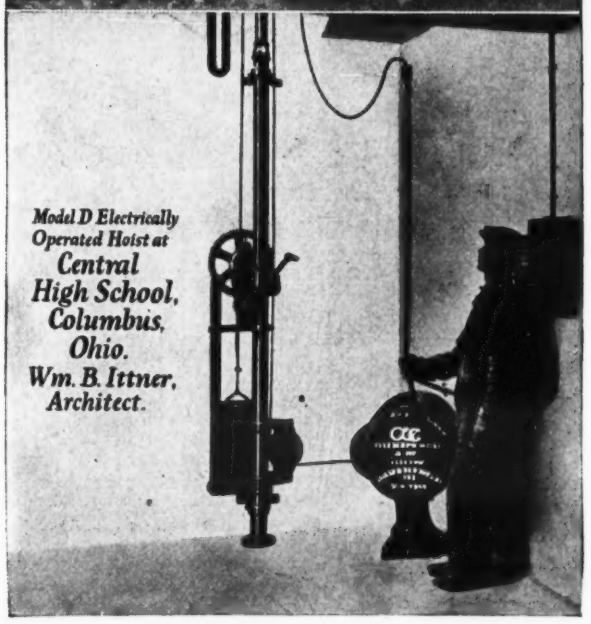
The Huntington Laboratories *Incorporated*
HUNTINGTON LABORATORIES

HUNTINGTON, INDIANA

G&G

Ash Removal
Labor Saving, Safe, Speedy, with





Model D Electrically Operated Hoist at Central High School, Columbus, Ohio. Wm. B. Ittner, Architect.

Best insurance against accident
And many years of service at very low cost

MORE than 1650 schools are G&G equipped. Schools must be free from accident-traps. Note how the G&G sidewalk doors and spring guard gate fully protect the sidewalk opening. The doors lock automatically when open or closed. Nothing is left to chance.

Note also the extreme simplicity of this arrangement. Two men easily and quickly do the work of 5 or 6. There is no confusion, no needless noise. The overhead crane model illustrated permits ash truck to drive up alongside of hoistway. There are also G&G "one-man" models, both hand power and electric, for use where cans must be removed across sidewalk to curb. Sturdy construction assures years of hard service. Electric models use surprisingly little current. Complete details on request.

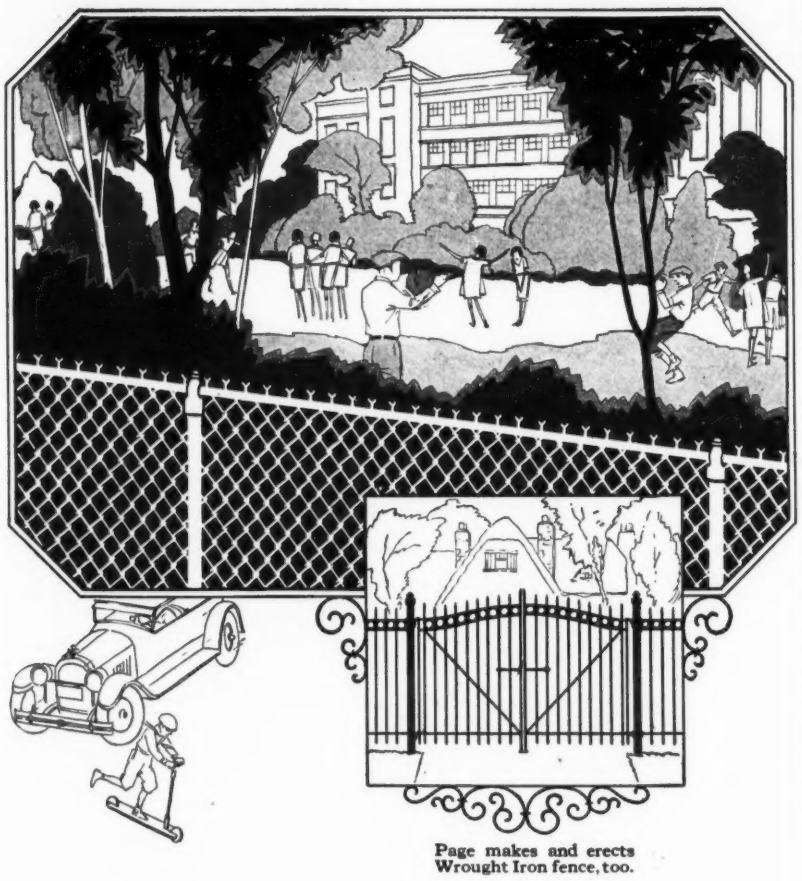
Your architect has our Catalog on file

GILLIS & GEOGHEGAN
551 WEST BROADWAY NEW YORK

G&G G&G

What price SAFETY?

Modern traffic demands Modern protection



Page makes and erects Wrought Iron fence, too.

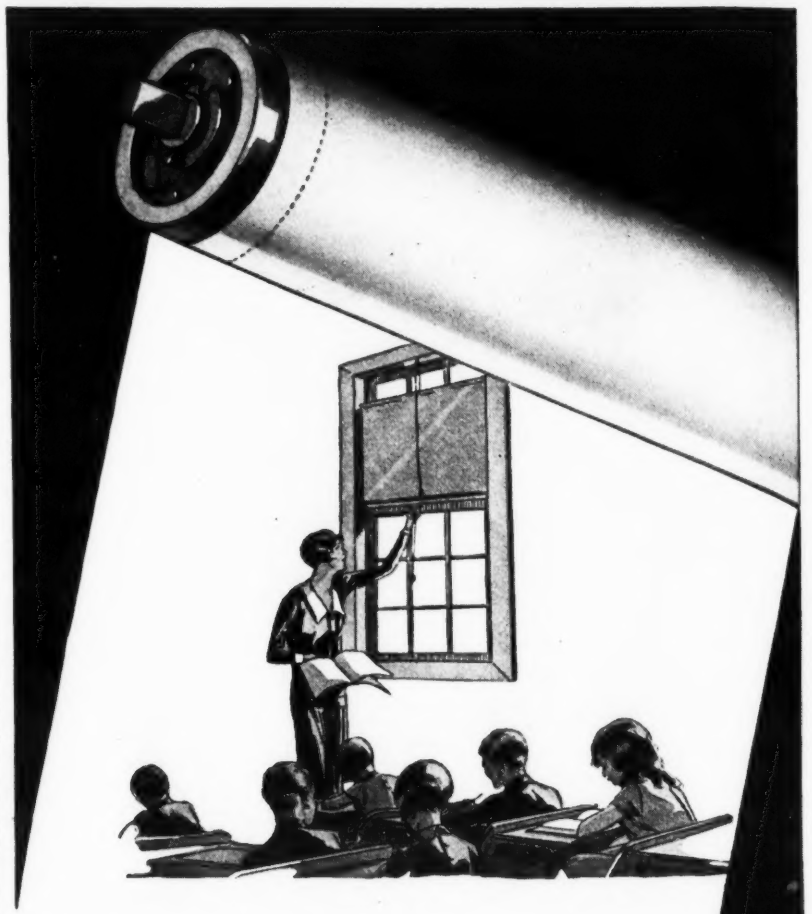
A definite boundary line of sturdy chain link fence keeps children *out of the street.* It makes it natural for them to *stay in the playground.*

53 Page Service Plants erect fence everywhere

There is a Page Service plant and fence-building organization located right in your vicinity. Remember this fence organization is interested in your installation *permanently. Their* business depends upon *your* satisfaction because they are a LOCAL organization. They have a group of fence-builders who will help you plan *modern* safety for your playgrounds. Write for the name and address of this organization today.

PAGE FENCE ASSOCIATION
215 North Michigan Ave., Dept. 7-J
CHICAGO, ILLINOIS

PAGE 53 service plants erect fence everywhere... FENCE
America's first wire fence — since 1883
CHAIN LINK — ORNAMENTAL WROUGHT IRON



Help the Backward Child with *Tempered* Light

OFTEN the so-called backward child is just a normal pupil working under the handicap of poor light and bad ventilation.

No other type of schoolroom equipment can contribute more to the health and efficiency of pupils than Hartshorn Shade Cloths mounted on dependable, smoothly-running Hartshorn Shade Rollers. They reduce the regulation of proper air and tempered light to a simple touch of the hand upon the shade cord.

For the sake of classroom health —specify Hartshorn Shade Products for your next shade requirements.

This shows Hartshorn Double Bracket No. 87, designed to permit proper regulation of light and air. With Hartshorn Shade Cloths, these rollers are ideally suited for classroom use.

STEWART HARTSHORN CO.
250 Fifth Avenue, New York City

Hartshorn *Established 1860*
SHADE ROLLERS AND WINDOW SHADE CLOTH

A SHADE IS ONLY AS GOOD AS ITS ROLLER

"FOR THOSE WHO APPRECIATE THE ECONOMY OF GOOD MERCHANDISE"

The Ideal Folding Chair

The only folding chair available combining

First—Comfortable design.
Second—Durable construction.
Third—Quiet operation.
Fourth—Attractive and lasting finish.
Fifth—Hygienic wood seat.
Sixth—Perfect balance.
Seventh—Compactness.
Eighth—Structural strength.
Ninth—Extreme lightness in weight.
Tenth—True Economy.

CLARIN CHAIRS are made of steel (excepting seat and rubber floor contacts) and will not mar the finest floor nor damage the most delicate floor covering.

This coupon will bring you a sample without obligation

Clarin Mfg. Co., 2456 N. Crawford Ave., Chicago, Ill.

Please send by parcel-post prepaid — sample CLARIN CHAIR, finish and seat as checked:

☐ Brown (walnut) ☐ Battleship Gray ☐ Wood Seat
☐ Maroon (mahogany) ☐ Olive Green ☐ Leatherette Seat

We will either return it or pay for it after a reasonable trial.

Signed.....

THE SCHOOL BUSINESS OFFICIALS AT DENVER

(Continued from Page 150)

ment has been devoted to finding out what the schools want and what they ought to want. An example of this kind of research has related to the sizes and shapes of kindergarten chairs. Research has proved that these chairs are generally too large and that children will be better served from the standpoint of health and educational efficiency if the chairs are slightly smaller. Continuing Mr. Vinson said:

This is service to schools. The commercial institutions which engage in and make public the research which necessitates revision of their own products and practices, can hope to profit thereby only over a long period of years, by building up confidence, rendering large service and stabilizing their industry. Such activities do not lessen competition, they lift it to a higher plane. Knowledge gained by such investigations cannot be patented and it is valuable only as it is made public. It becomes the property of competing producers as fast as it becomes effective among purchasers. Buyers are not given to expressing gratitude for such benefits by preferential buying nor by paying higher prices. The competitive warfare goes on, but it is on a level of better service.

The leading manufacturers in all the principal lines of school supplies report continuing research seeking to improve their respective products. Experiments are constantly under way to improve the materials, finish, durability, or usability of paper, crayons, blackboards, maps, globes, laboratory equipment, furniture, seating, and everything that is sold to schools. Newer and better ideas are being worked out in windows, shades, clocks, lockers, building materials, heating and ventilating devices, plumbing, playground equipment, and everything that is built, installed, or consumed in a modern school. These improvements do not happen by chance. They are all the result of somebody's careful thought and expensive experiment.

The school-supply industry has traditionally been a highly seasonal business, running on a skeleton organization or closing down during a large part of the year and then working overtime with a half-organized force of raw recruits during the rush season. This condition inevitably means inferior products expensively and wastefully produced and distributed. It means mistakes, delays, confusion, and dissatisfaction. It means an unending succession of new and irresponsible adventurers into the business and a rapid passing out of the experienced ones. Research has been investigating these conditions and finding them ruinous, with the result that the stronger organizations have been fortifying themselves behind a policy of steady, year-round production with a trained and permanent force. But this demands heavy capitalization, storage facilities, a constant and comprehensve study of prospective demand and supply, foresight of price conditions and a carefully determined schedule of production and distribution. The consumer pays ultimately in price, values, or service for both overproduction and shortage, for shutdowns, and for production on overtime work. It is incomparably cheaper to pay for the research and to cooperate in eliminating the causes of these precarious and wasteful conditions.

The better sort of manufacturers of school supplies are constantly conducting research into their own methods of manufacture the aim of which is always the improvement of the product and more economical and efficient production. Elaborate tests are gradually standardizing processes and products. Guesswork is being eliminated. Formulas have attained an accuracy and methods a precision which enable the producer to sell his products with an absolute guarantee of reliability. It is no longer the buyer's care that he receives what he has ordered and paid for, or that the goods are up to specifications. If he buys from a reliable dealer, or buys a reputable manufacturer's standard product, he buys an assurance that the goods are all that he expects or that they will be made good. Manufacturers' research is the buyer's insurance against loss or dissatisfaction. No shrewdness in judging the quality of goods he buys is nearly so effective for the buyer as is his shrewdness in knowing the quality of the producer or seller who stands behind them.

MESSRS. DE VRIES, MILLS, AND GRAHAM AT THE MOUNTAIN OUTING.

Research is beginning to be directed upon the problems of selling and distribution. It is easily discovered that selling methods are wasteful. Enormous costs for railroad fare, hotel bills, salaries, overhead, and even for entertainment, not only by the successful salesman but by all his competitors, are often involved when a two-cent stamp would be as effective in making an equitable transaction. All these costs are sooner or later absorbed by the consumer. The better concerns are systematizing their methods of selling, cutting out wastes and duplications of effort, seeking to substitute reliability and confidence for importunity and persistence as selling forces. But it is a fact which you gentlemen must face, that reform in this respect depends as much or more upon the purchasers than upon the sellers. The salesman must conform to the methods which are effective. If repeated trips, constant advertising, long and watchful waiting, playing to personal prejudices and peculiarities, bringing social, political, and other sorts of pressure to bear, are the means of getting the business, then these methods must be adopted and charged up somewhere and sometime in the bill. If in addition to these wastes, low prices is the persuasive argument, then low quality and poor service is inevitable and the price will be in countless future bills. If the determining factor in selling is an unqualified guarantee of satisfaction and service from an organization with ample resources to back it up, the only sales activity necessary should be devoted to cooperative activity between salesman and purchasing agent devoted to determining just what the requirements are. Fair prices should be as much a part of the guarantee as is quality or service.

In this connection I want to propose to you gentlemen a research project which may be of tremendous value in your work. With reference to your next purchase or letting of consequence, keep a detailed record of all the varied activities which are expended to get the business from you. Record the exact number of letters, circulars, catalogs, and other advertising or advance matter you receive. Make a record of all telegrams, telephone calls, samples, and visits involved, including transportation, hotel bills, salaries and the idle time involved in carrying a force of such men through the dull season ready to reach all such customers as yourself in the busy season, and don't forget your own time and that of the committee, board members, clerks, and others participating in the buying end of the trade. Keep these facts as accurately as possible. Find out or estimate, as nearly as possible, the costs of all these in dollars and cents. Remember that you must include the costs to the unsuccessful as well as the successful bidders. Ultimately, you must bear your due share of all selling wastes. You might also add a margin for your small share in the gen-

BLAIR'S WEBSTER SCHOOL SERIES

COMPOSITION AND NOTEBOOKS—END AND SIDE FOLD. SPELLING BOOKS AND BLANKS — SPECIAL FORMS. EXAMINATION, TEST AND THEME TABLETS — PRINTED HEADS. SHORTHAND NOTEBOOKS — WIDE AND CENTER-LINE RULINGS. STANDARDIZED WHITE WOVE WRITINGS. BLAIR-SPECIAL QUALITY PENCIL PAPER. COPYRIGHTED TRADEMARKED DESIGN. DESIRABLE UNIFORMITY. PRICE AND COUNT. SATISFACTORILY KNOWN TO THE SCHOOL TRADE. POPULAR COMPREHENSIVE LINE EVERY YEAR ALIKE—SINCE '98.

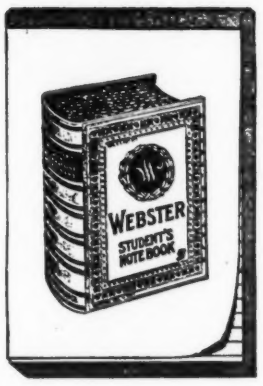
PENCIL TABLETS

MUSIC TABLETS

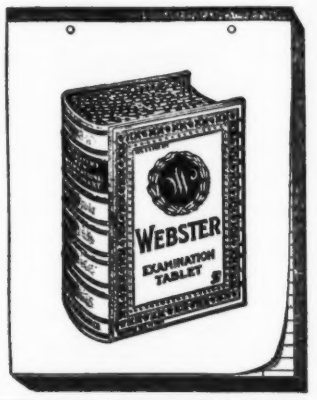
REFILLS FOR LOOSE-LEAF BOOKS. DRAWING BOOKS AND TABLETS. LEGIBLE RULINGS IN BLUE. SUBSTANTIALLY BOUND. SQUARELY AND EVENLY TRIMMED.

MARGIN LINES

QUALITY GUARANTY



PENMANSHIP—DOUBLE AND SINGLE LINE RULED.
PRIMARY AND PRACTICE—SPECIAL RULINGS.
MEMORANDUM BOOKS—THREAD SEWED.



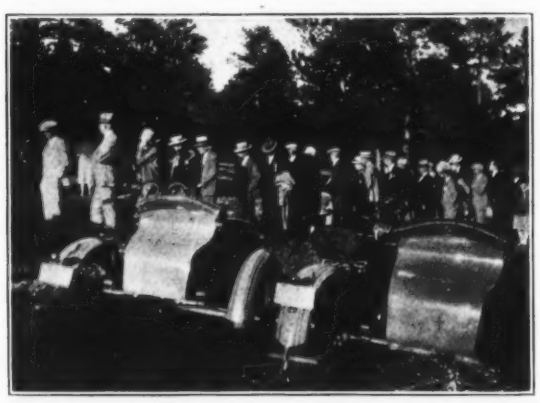
SAMPLES AND INFORMATION DETAILS AT YOUR CALL.

J. C. BLAIR COMPANY

MANUFACTURING STATIONERS HUNTINGDON, PENNSYLVANIA

eral costs of advertising, exhibits, and the overhead organization necessary to keep all this complex selling activity going, and similar efforts which do not reach you directly but must be shot out into the unknown in order not to miss possible buyers. You probably will be appalled at the size of this selling expense. Besides it, the little difference of a few cents cut in price which you managed to get by playing competitors against each other will seem trivial. You can't put your finger on it in the bill, nor can the sellers do so, but it is there or they would not be in business. An order was recently placed by a Texas city for school furniture amounting to about $10,000. The actual cost of the time and expense of salesmen competing for the job was conservatively calculated at $1,700. The profit to the successful holder was about $600. Who pays the balance is not a mere academic question.

That the mystery of acoustics has been largely solved and that acoustical engineers have developed principles and technics that offer a solution for every problem was made clear by Dr. Vern O. Knudson of the University of Southern California. Good acoustics are of prime importance in schools because the word of mouth is still the prime method of conveying instruction to children. In schoolrooms, particularly auditoriums, the chief faults of acoustics are excessive reverberation or continuance of sound waves, and interference or crossing of lines of sound waves. Good acoustics depend largely upon the shape of a room and can readily be insured if a room is properly designed and usual causes of difficulty are avoided. Unnecessary size is always an evil. A room can be so designed that the last rows actually receive as much or more sound than those half way back from the platform.



THE LINE-UP FOR LUNCH AT THE MOUNTAIN OUTING.

Thursday afternoon was devoted to a trip around the city of Denver for the purpose of seeing the new Denver school buildings. The annual dinner was tendered on Thursday evening by the Denver school authorities at the East High School. Before the dinner, Dr. H. W. Anderson, deputy superintendent of schools, delivered an illustrated lecture on "The Denver School-Building Program," in which the entire Denver work was made clear. Dr. Anderson's paper was another evidence of the scientific and painstaking service which he has been giving the city of Denver and which has placed the new Denver school buildings on a basis of efficient service not to be exceeded in any present-day city-school system. After the dinner, which was served by the supervisor of school lunches and her assistants, a program of addresses was held. The speakers were Dr. William H. Smiley, toastmaster, Mr. L. Ward Bannister, Mr. James G. Rodgers, and Hon. R. Hickman Walker. Members of the association made brief addresses.

The Friday Sessions

The Friday morning and afternoon sessions were carried through without a noon intermission. The first speaker was Mr. John J. Donovan, of Oakland, Calif., who discussed in his usual happy way, the architectural service which is necessary to result in the "School Beautiful." Mr. Donovan made clear that no school is beautiful unless it is serviceable, well built, and economical. Mr. Joseph Llewellyn, of Chicago, in discussing the architect and the business side of his work, presented a careful paper outlining all of the points on which the architect must safeguard the funds of the board of education as these are used in the construction of a new school building.

Mr. Ernest Sibley of Palisade, N. J., suggested in a paper on "Historic Architectural Styles," some principles which must be used to effectively adjust the colonial, Tudor, and gothic styles to present-day school-building needs. "Landscape Development of School Grounds" proved to be a most instructive paper, read by Mr. M. W. Pesman of the Denver schools. Readers of the JOURNAL will remember Mr. Pesman's papers on this subject in spring issues.

The final formal paper of the day was read by Mr. Frank Bruce, publisher of the SCHOOL BOARD JOURNAL, on "Bonded Indebtedness for School Systems." The paper will appear in the August issue of the JOURNAL.

The Business Session

The annual business meeting of the association proved more lively than is usually the case. The convention on Thursday accepted the report of Mr. D. D. Hammelbaugh concerning a handbook on accounting, to be published by the United States Bureau of Education. Reports from its other important standing committees were not forthcoming, a matter that is rather a disappointment in that one committee was expected to present some important material on schoolhousing, and another was to report the progress in promoting uniform accounting among the states.

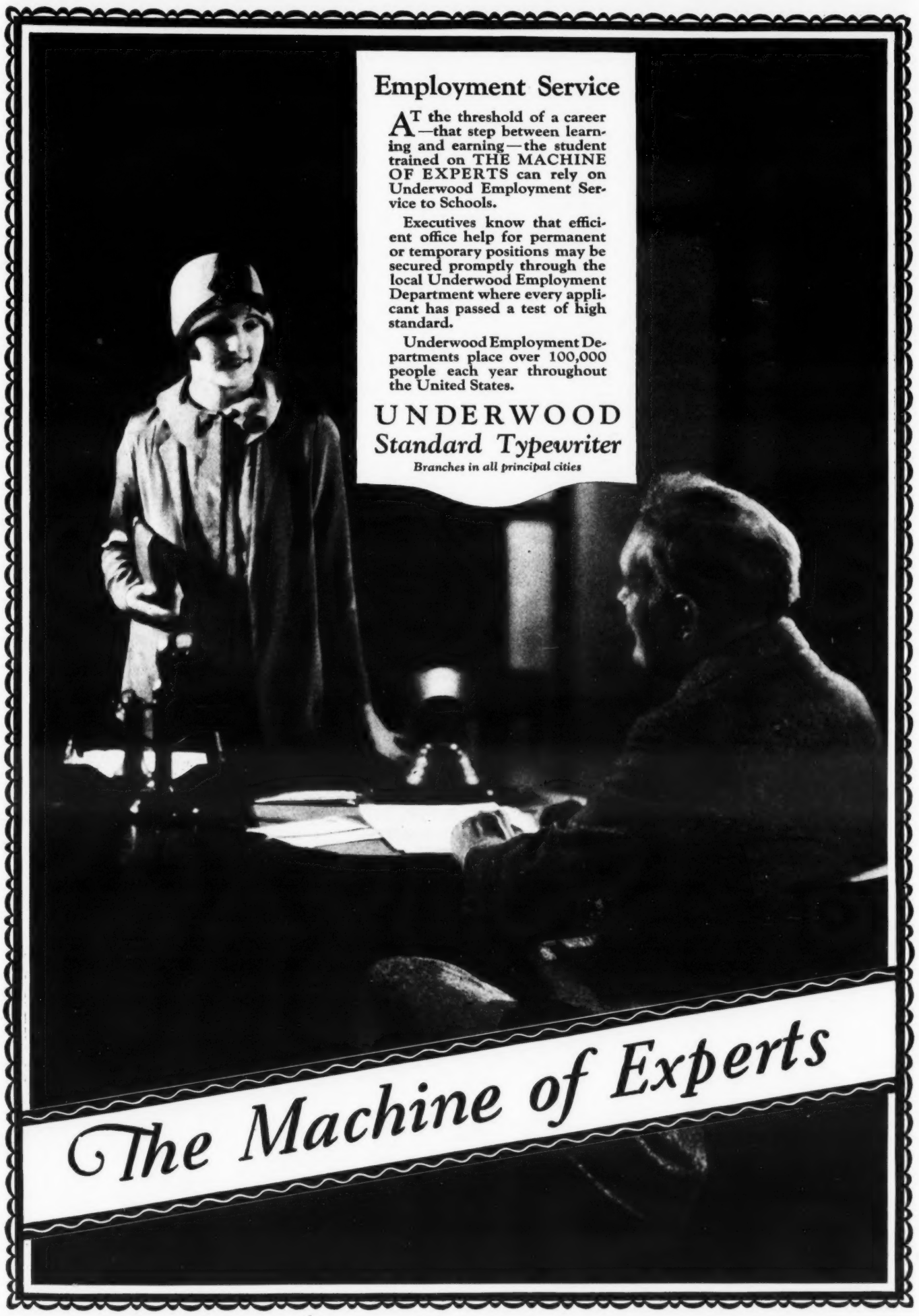
The association is in splendid shape financially and has a comfortable balance in the bank. This is no doubt due to the careful management of finances by Mr. Henry Huston, treasurer, and Mr. J. S. Mount, secretary.

The report of the nominating committee precipitated a fight on the floor. The nomination of Mr. George King of Salt Lake City as president was unanimously accepted. The nomination of Mr. A. B. Cousins of West Virginia for vice-president apparently did not meet the wishes of the older members of the association who placed in nomination Mr. C. E. C. Dyson of Toronto, Canada. Mr. Dyson was elected by a substantial majority. Mr. J. S. Mount and Mr. H. S. Huston were re-elected as secretary and treasurer respectively.

The committee on resolutions, headed by Mr. William Dick, thanked the local committee and others connected with the successful convention at Denver. The association pledged its cooperation with all other agencies interested in the improvement of schools and their business management.

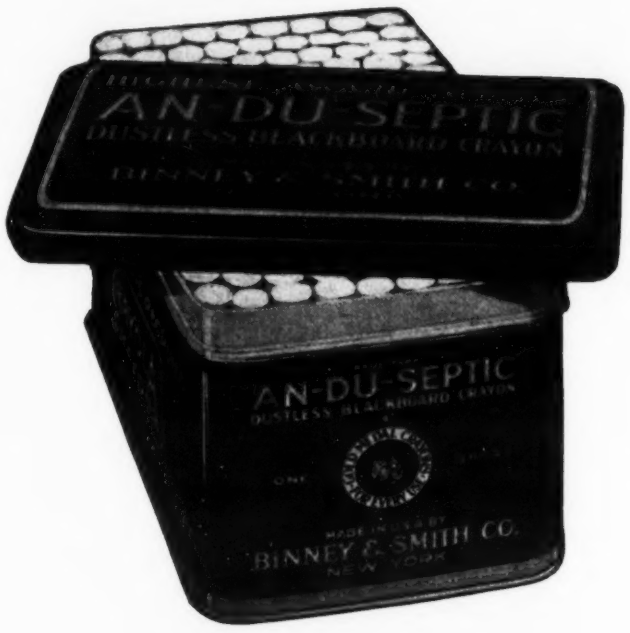
A rather graceful resolution was presented by Mr. G. W. Grill of Lakewood, Ohio, on the retirement of Mr. William Dick as secretary of the Philadelphia board of education. The resolution expressed the appreciation of the association for 52 years of continuous service for the Philadelphia schools and for Mr. Dick's outstanding idealism and leadership as a member of the association. The resolution carried with it the election of Mr. Dick as an honorary life member of the association.

After the adjournment of the convention, the executive committee selected the city of Columbus, Ohio, as the next meeting place.


Employment Service
AT the threshold of a career—that step between learning and earning—the student trained on THE MACHINE OF EXPERTS can rely on Underwood Employment Service to Schools.
Executives know that efficient office help for permanent or temporary positions may be secured promptly through the local Underwood Employment Department where every applicant has passed a test of high standard.
Underwood Employment Departments place over 100,000 people each year throughout the United States.
UNDERWOOD
Standard Typewriter
Branches in all principal cities
The Machine of Experts

AN-DU-SEPTIC Crayons

Packed in the New Metal Box for School Use



AN-DU-SEPTIC dustless blackboard crayons are well known to you —and preferred by you—because they are dustless, gritless, and greaseless, and make clear white marks easily readable from all parts of the classroom.

AN-DU-SEPTIC Crayons are packed in a handy new *metal* container which keeps them safe from breakage and moisture. The metal box is so attractive and useful that it may be used over and over again when empty.

ANDU-SEPTIC Crayons come in round, square, and hexagonal shapes. One gross to the box, 25 boxes to the case. Be sure to mention the new metal box when you place your next order.

Other GOLD MEDAL *Products*

CRAYOLA Wax Crayon
PERMA Pressed Crayon
SPECTRA Pastel Crayon
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The Strayer-Upton Arithmetics

Book II. By George D. Strayer and Clifford B. Upton. Cloth, 348 pages. Price, 76 cents. Published by the American Book Company, New York, Chicago.

This book, which is the second in a series of three books, covers the work of the middle grades. The book which conforms to the best modern practice, presents methods and material which have been thoroughly tested in the classroom by experienced teachers.

The authors, in the preparation of the book, have incorporated the most valuable findings in the teaching of arithmetic, including the results of important researches in the subject. The problems have been selected with special care and relate to things which are real and interesting to the children. In the work in fractions and decimals, and in the treatment of percentage, the work is arranged step by step so that the pupil is not confused by too much material at one time. With the importance of the decimal in everyday life, it has been the purpose of the authors to include some of the modern uses of decimals in the problem material of the book. Individual differences of pupils have been provided for, while the abstract exercises in whole numbers, fractions, decimals, and percentage are abundant and carefully graded for the benefit of the pupil. There are also provided a series of improvement tests in whole numbers, fractions, decimals, and percentage which are intended as a means of developing the pupil's skill in the fundamental operations.

The last chapter of the book is devoted to business problems including checks, parcel post, percentage, commission, profit and loss, interest and discount, and bills and receipts.

The book should be helpful to teachers in the middle grades as it takes up those problems which concern the everyday life of the pupil and which will be of help in advancing to the more difficult work of the higher grades.

The Pathway to Reading

By Bessie Blackstone Coleman, Willis L. Uhl, James Fleming Hosic. Cloth, 432 pages. Published by Silver, Burdett and Company, Boston.

Credit goes to the compilers of the series of readers of which the present volume constitutes the seventh reader. They have ransacked the literary strong box of their time and lifted out the rarest selections. Each composition is followed by a set of questions. The array of authors covers a wide range, regardless of their prominence or lack of prominence in the literary world. Thus, some of the meritorious bits that have hitherto lain buried in the mass of forgotten things are given attention.

Natalia and Nikolai

By Varia Klenova and L. Lamprey. Cloth, 176 pages. Illustrated. Price, $1.00. Published by World Book Company, Yonkers-on-Hudson, New York.

This is a story of two Russian children whose travels and experiences afford the reader an interesting insight into Russian life and customs. There are visits to the great Kremlin at Moscow, to a wonderful estate near Petrograd, and a trip on the famous Volga. Colorful events are in progress.

The authors manifest an intimate knowledge with the peaceful side of Russian life, as well as with the history, traditions, and social customs of an interesting country. The illustrations are well done.

Junior French

By Louis J. A. Mercier. Cloth, 380 pages, illustrated. Published by Silver, Burdett and Co., New York City, N. Y.

An introductory language book for use in high schools. The method has been subjected to successful tests in numerous schools.

Competitive Master Specification for a Perfect Painting Job

By Frank B. Stevens and G. A. Beem. Published by The Paint Engineers, Chicago, Ill.

Two experts have combined their experience in outlining this set of master specifications for interior finishing of walls, ceilings, woodwork, etc. School authorities engaged in reconditioning school buildings will find it especially valuable.

Attendance at Kindergarten and Progress in Primary Grades

By Josephine H. MacLatchey. Paper cover, 144 pages. Price, $1.25. Published by The Ohio State University Press, Columbus, Ohio.

This is the eighth of a series of educational research monographs issued by the Ohio State University. The present study goes exhaustively into kindergarten and primary-grade work. It defines the problem involved in the subject, discusses means and methods, and presents final comparisons of achievement. A summary of conclusions is provided.

Stenographic Reports of Elementary-School Lessons

Prepared by the Efficiency Committee of the Central Division of the Illinois State Teachers' Association. Paper, 96 pages. The Public School Publishing Company, Bloomington, Ill.

This book records the entire dialog of seventeen lessons in reading, geography, nature study, language, and arithmetic. The purpose is to put in the hands of teachers an accurate account of effective instructional material.

Handcraft Pottery

Henry and Denise Wren. Cloth, illustrated. Price, $3.75. Published by Isaac Pitman & Sons, New York City.

A practical manual for the school shop in which methods are fully described and illustrated. The authors suggest an interesting series of problems which are within the ability of school children, but emphasize chiefly processes and materials.

Wisconsin

By Dr. Edward A. Fitzpatrick. Cloth, 427 pages. Price, $1.72. Published by The Bruce Publishing Company, Milwaukee, Wisconsin.

Every state has its historians, and every historian his own approach to his subject. Thus, there are many historians dealing with the several states, diverse in treatment and bulky in volume. At the same time it may be said that but few of them are suited for popular reading, or lend themselves for textbook use.

The author in writing a new history of Wisconsin enters upon a new departure. He has aimed at completeness and compactness of presentation, and observes relative values with a remarkable accuracy. He not only recites the incidents of the earlier exploration and discovery period in which this territory figures so largely and presents them in a fresh and terse form, but he eliminates with discriminating care the nonessential and superfluous as well.

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(Concluded on Page 170)

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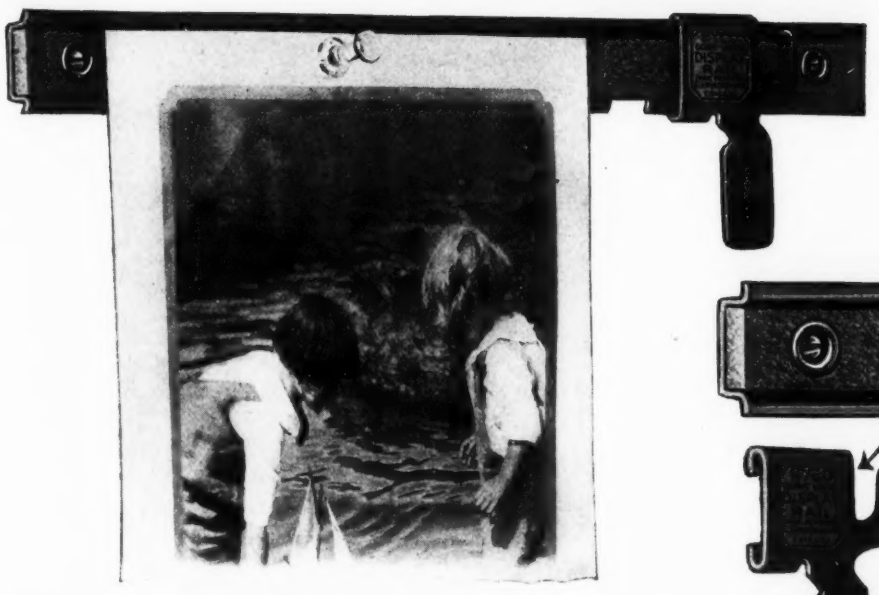

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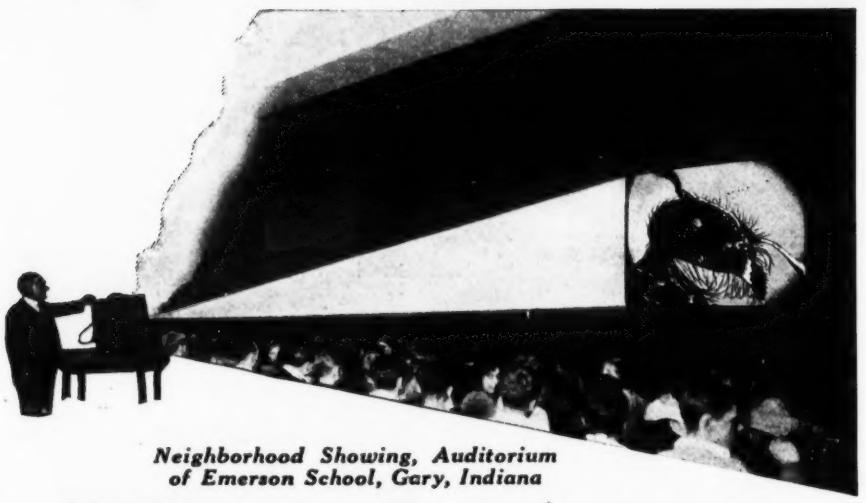

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(Concluded from Page 168)

pertinent detail, but is told in the light of present-day conceptions and appraisal. This approach to and treatment of the subject constitutes the chief merit of the book.

Thus, the development along political, economic, and social lines is brought to the fore, the evolution from wilderness to statehood is logically unfolded, and the forces that led to material progress and cultural achievement are adequately and graphically described.

The author has demonstrated with a fine touch the relationships which the state bears to the nation, and has dealt with the commonwealth as an integral part of the great Republic. Then, too, he finds a proper balance between war and peace-time activities, between the agricultural, industrial, and commercial pursuits, and the civic and educational endeavors. In brief, he tells the whole story in a terse and instructive language.

This volume is well adapted to serve as a history text in the upper grades of the grammar schools and in the high schools. Each chapter is provided with questions and problems.

The text is accompanied by interesting illustrations, many of which we are assured by the author, have not hitherto seen the light of day. The appendix includes the Declaration of Independence, the Constitution of the United States, the Ordinance of 1787, and the Constitution of the State of Wisconsin.

Shakespeare's Julius Caesar

Edited by Max J. Herzberg. Cloth, 174 pages, illustrated. Price, $1. D. C. Heath and Co., New York City.

This book is undoubtedly the most complete edition of a Shakespearean classic to be offered for use in American secondary schools. The editor has accepted the call for more background in a surprising manner and has provided a complete historical study of Italy, the Romans, and of the career of Julius Cæsar; he has provided a complete biographical and literary study of Shakespeare and his times. As a third feature of the book, he has arranged a series of study suggestions involving not only the play itself, but modern stage craft as applied to the play, a study of its vocabulary, an analysis of the characters, a bibliography, a series of exercises and projects, and finally, a glossary. Whether or not we agree that all the material provided is necessary, we cannot help but admire an editor who makes a book as inclusive as the present.

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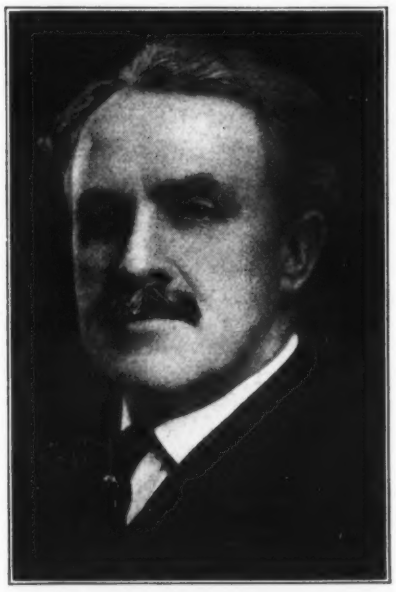
Mr. Bogan is a native of Michigan and obtained his early training in the schools of that state. He has been teaching since 1889 and has served for 35 years as teacher, principal, and superintendent in the Chicago public schools. Mr. Bogan's work at the Lane High School brought him nation-wide prominence, and educators of international reputation have commended his work at that school. Mr. Bogan served as first assistant to William McAndrew during the latter's term as superintendent.



WM. J. BOGAN,
Superintendent of Schools, Chicago, Ill.

Mr. Bogan holds the degree of bachelor of philosophy given by the University of Chicago. He is president of the Vocational Education Association of the Middle West, the National Society of Vocational Education, and the Chicago division of the Illinois Teachers' Association.

THE SELECTION, PURCHASE, AND DISTRIBUTION OF SCHOOL SUPPLIES

(Concluded from Page 162)

10. Simple, yet comprehensive, accounting systems for supplies should be devised.

11. The forms used in purchasing and distributing supplies should be standardized and complete.

12. A perpetual inventory should be kept of all supplies by items, using a card system.

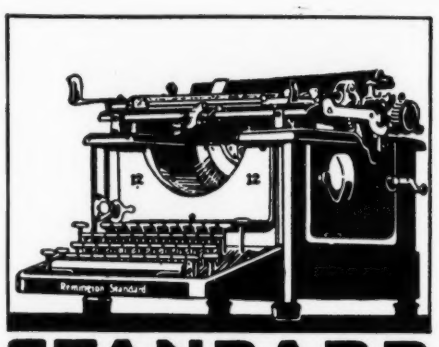
13. A complete check of responsibility for supplies should be worked out. This involves the superintendent or purchasing agent, the truck driver, the checker, the school principal, the janitor, and the teacher. Hoarding of supplies by teachers and janitors should be prevented.

14. The whims of individuals should not be permitted to increase the multiplicity of items of supplies furnished the school. Acceptable standards both as to size and quality should be established and adhered to.

15. Wherever feasible, school trucks should be secured and used in the distribution of school supplies. Children should not be used as distributing agents.

16. Neither janitors, principals, nor teachers should be permitted to place orders in local stores for small items of supplies urgently needed. Care in estimating and accounting for supplies will make this common practice unnecessary.

17. Budgetary procedures, as they relate to school supplies, need further investigation.



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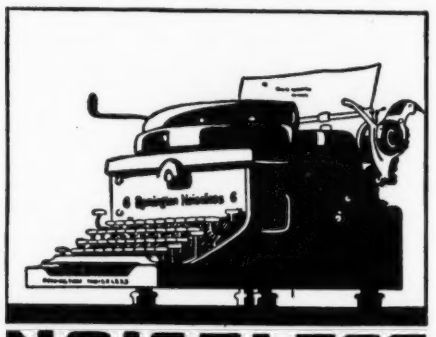

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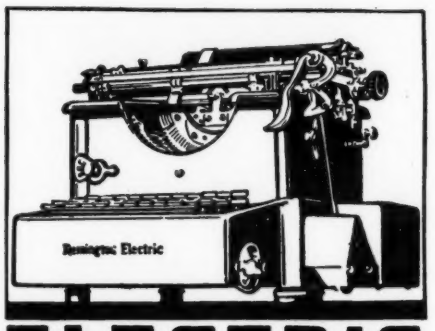

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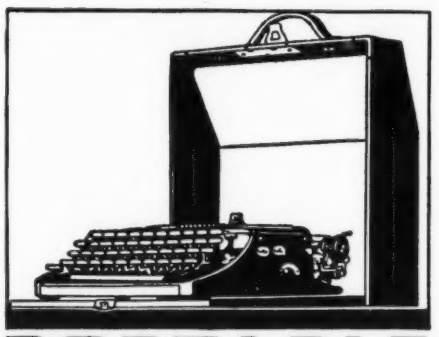

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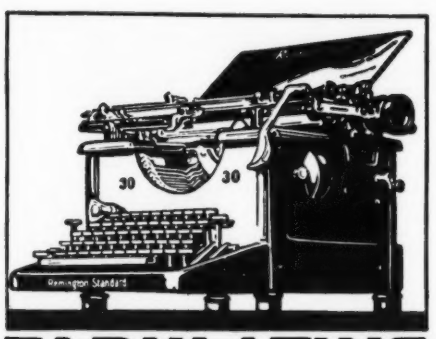

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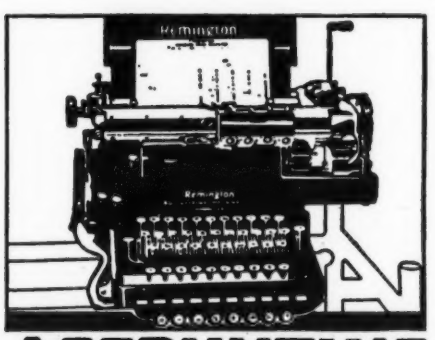

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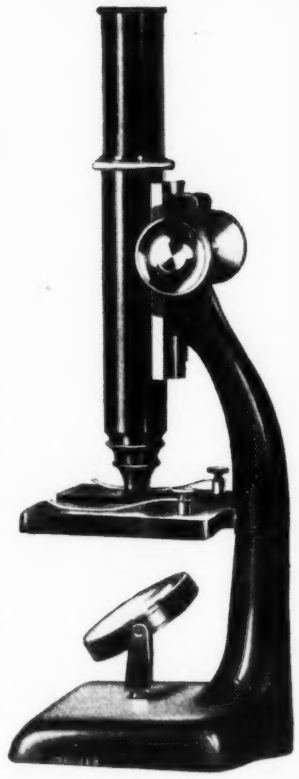

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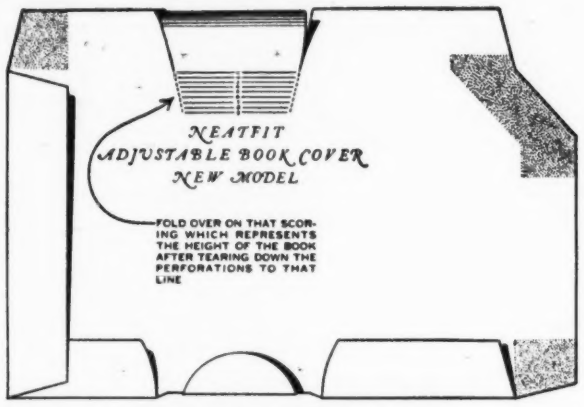
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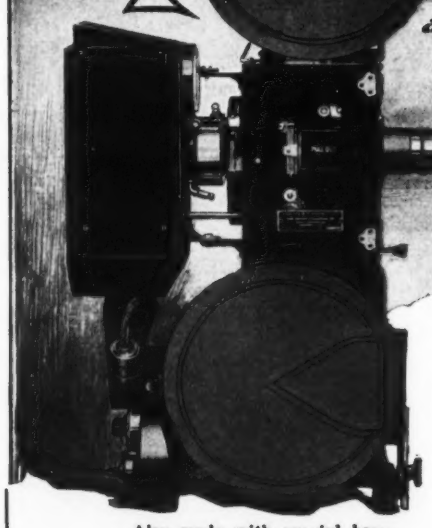

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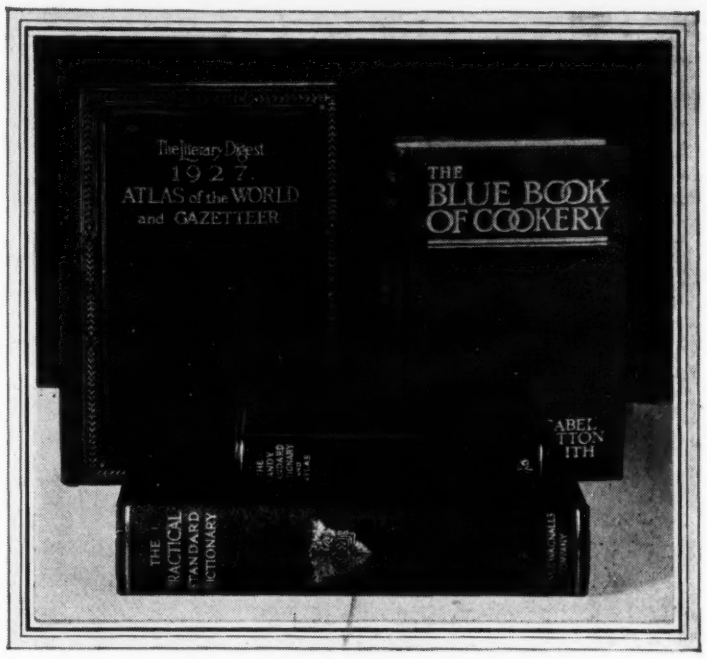

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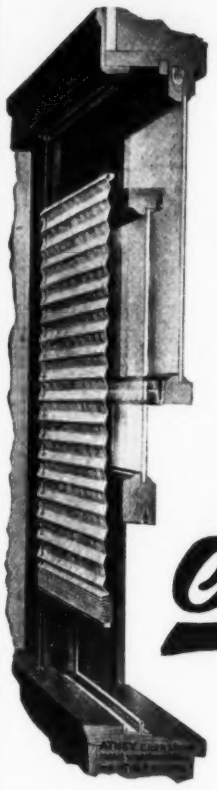

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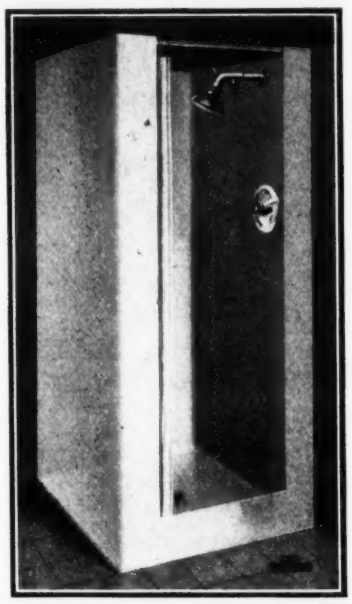

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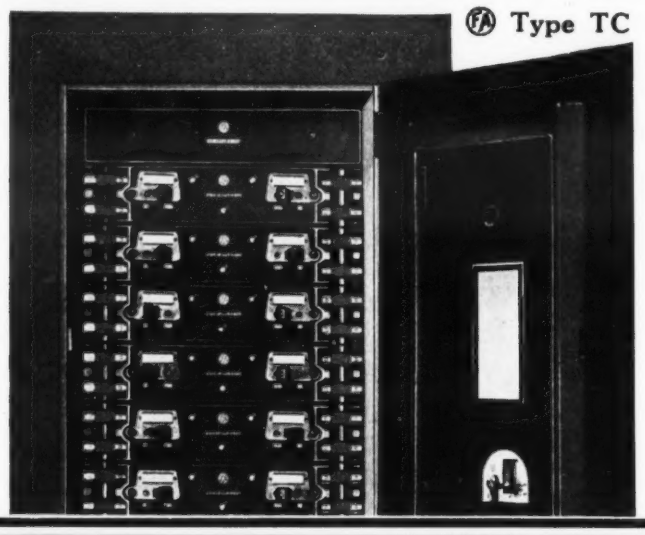

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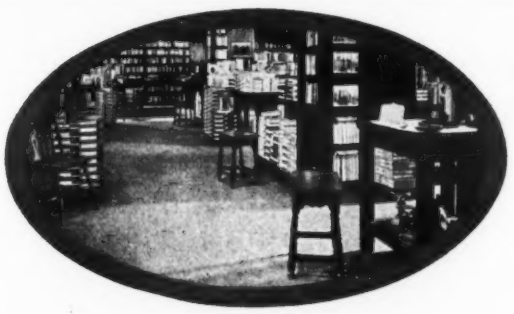

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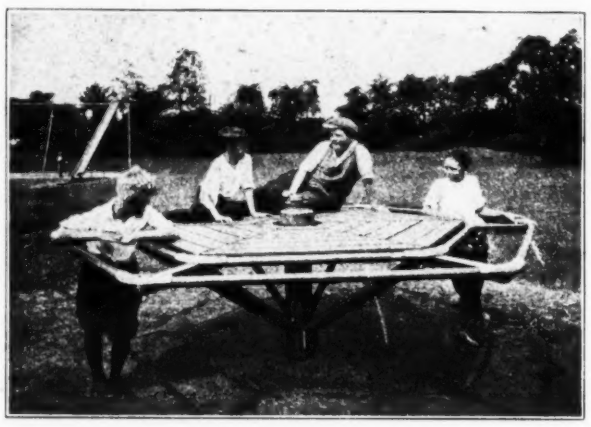

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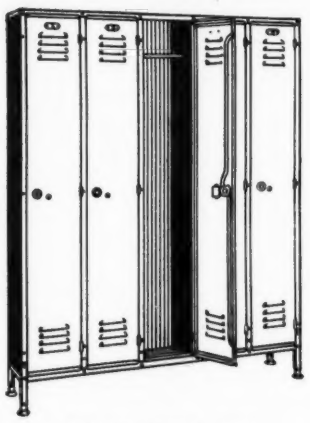

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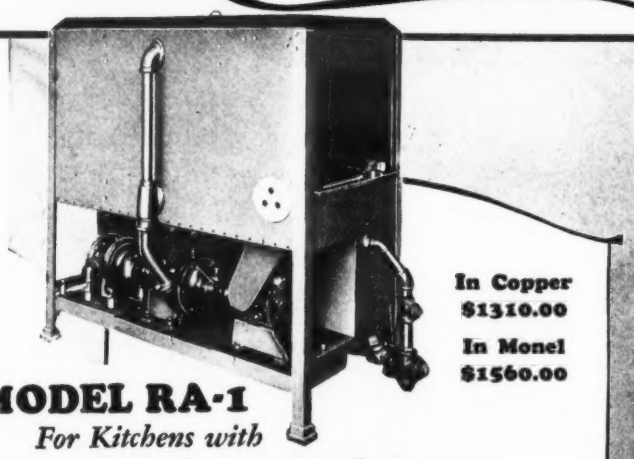

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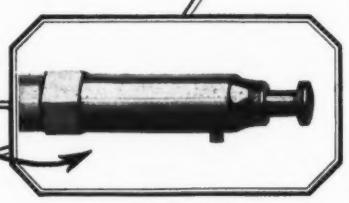

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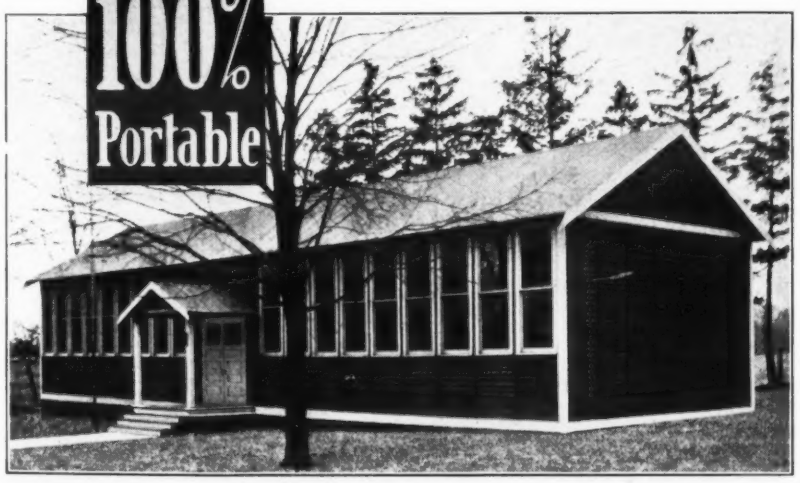

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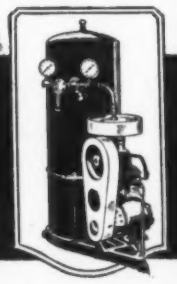

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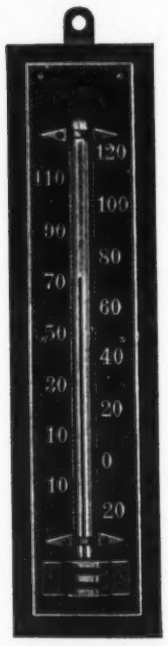

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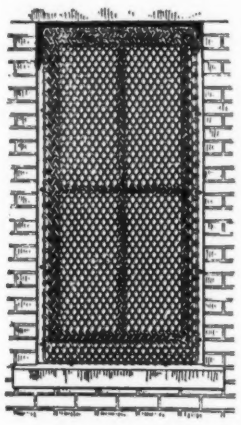

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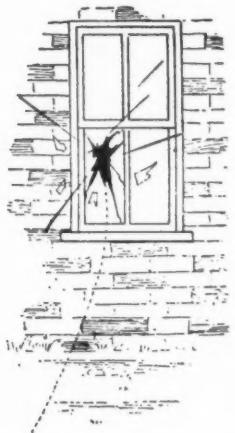

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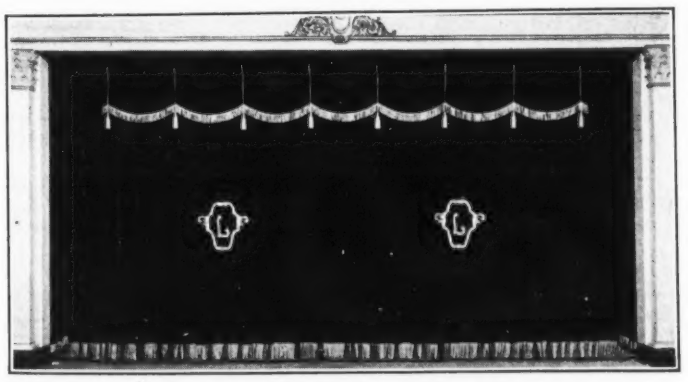

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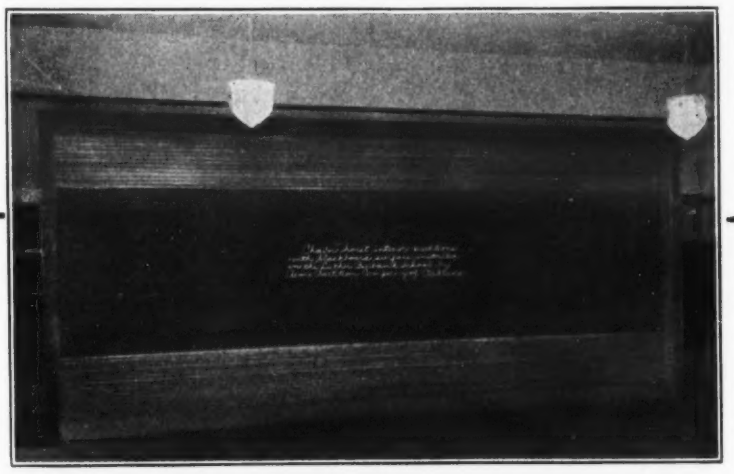
Specialists in School Cafeteria Equipment

Your replies addressed to our Engineering Department will receive prompt attention.



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The blackboard surface shown is applied directly to the smooth surface of the finished wood.

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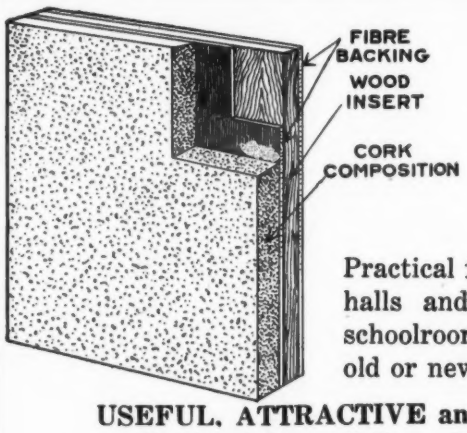

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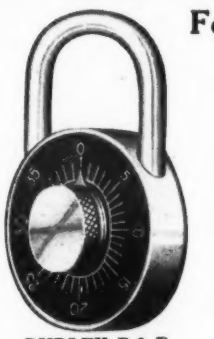

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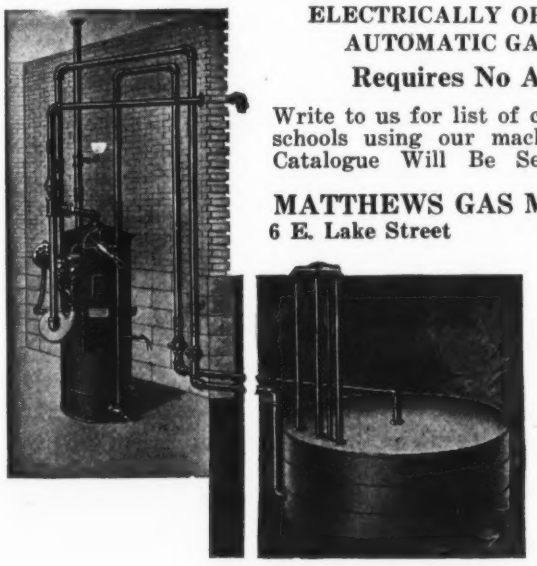

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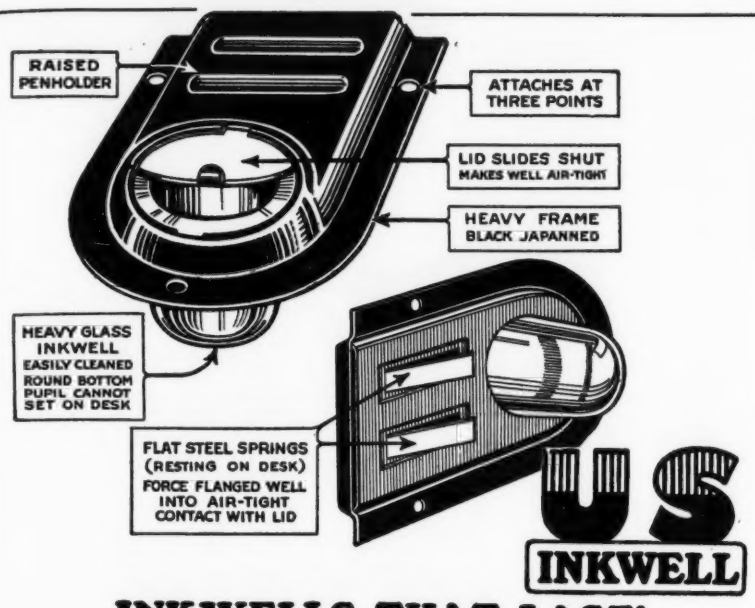

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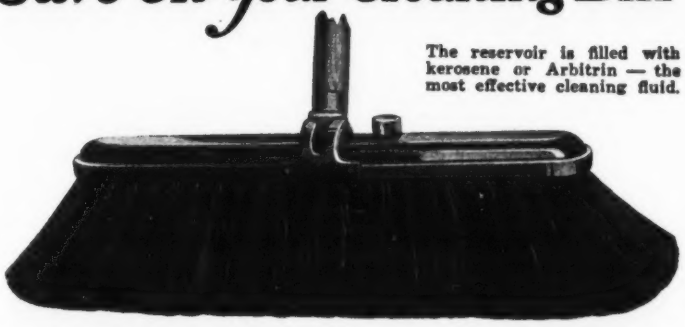

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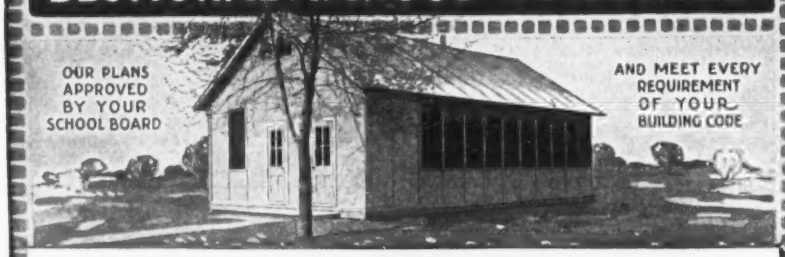

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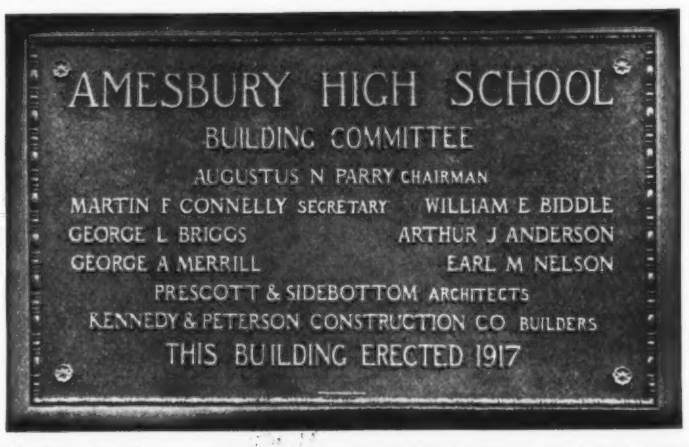

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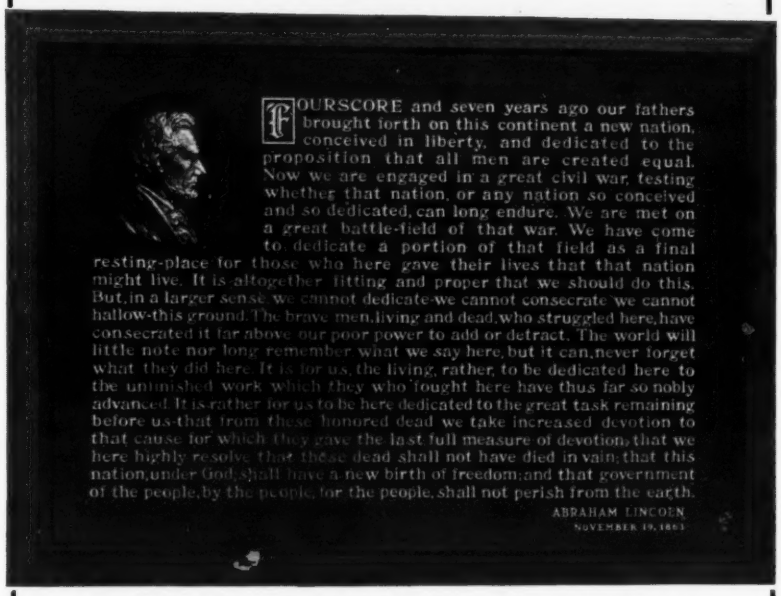
FOURSCORE and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field as a final resting-place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But, in a larger sense, we cannot dedicate-we cannot consecrate-we cannot hallow-this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract. The world will little note nor long remember what we say here, but it can never forget what they did here. It is for us, the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us-that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, for the people, shall not perish from the earth.
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"Well hurry up!"

"I got it. I'm coming," and Mr. Brown and his son walked out to the garage.

"Let me drive dad? Gi'me the key dad—thanks."

The Browns were soon rolling down the avenue with junior steering and senior directing.

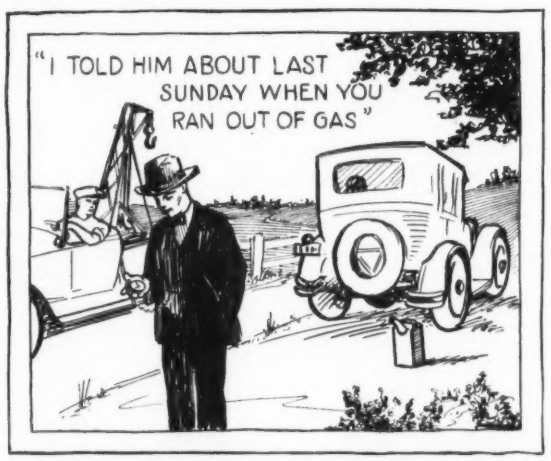
"The car sure runs better since you had that thing-a-ma-jig in the distributor fixed. She doesn't jerk every time you slow down. What *was* that thing dad—some breaker contact or something?"

"That was a—a-—a oh, it was some kind of a contact or other that—Look out son, there's a cop behind us—*some* kind of a contact anyway—alright, the cop turned off."

"When are you going to have the brakes fixed dad? Gee, they must be all shot."

"I dont know. I suppose they can be fixed, but I don't think much of these hydraulic brakes anyway."

"Why not? They got 'em on a lot of cars—they must be good. I wonder how they work. I guess there's some kind of a piston that pumps oil into the brakes, anyway I know that last time you had them fixed they had to put a new washer in a cylinder on the wheel somewhere. I'll have to ask Jack how they work. Gee, Jack knows all about cars. He's studying all about autos at school."



"What in the world does Jack want to study 'autos' for—he's never going to work in a garage. His father let him study that kind of stuff?"

"Sure! And gee dad, I wish you'd let *me* take it next semester."

"Nothing doing! You just 'tend to your Geometry and English and History. This shop-work is alright for kids that are going to be garage mechanics, but what you want is something that will help you when you go to college—Look out for that street car—No sir! You aren't going to waste your time on any Shop course."

"But dad, the course Jack takes *isn't* any kind of a shop course. There isn't any shop-work *in* it. Say—there's even two girls in the class."

"Girls—in an Auto class?"

"Sure—why not? Don't girls drive cars? Don't Mother and Sis drive?"

"Yes, but there aren't any girls working in garages—at least I never saw any."

"But dad, I *told* you the class Jack is in isn't any kind of a garage class or a shop class or anything *like* that. It's just a regular class like Physics or Chemistry or History. It's just for fellows like Jack and me. And I'll bet you would like it too—you're always wondering about something on the car. You know Jack laughed when I told him about last Sunday when you ran out of gasoline and couldn't get started and had to call that garage car. Jack asked right away if you didn't fill the vacuum tank from that spare gallon can you always carry. Gee—I wouldn't have known enough to do that either. I'd have poured it all right into the gas tank just like you did—but Jack knows all about it—learned it at school."

"So your friend Jack laughed at me?"

"Well, not exactly *that*, dad, but he said *he* would have known what to do."

"Learned it at school, eh?"

"Sure! Gee, Mr. King who teaches the class is a dandy fellow. I was talking to him the other day and he told me all about the course. They just started it—this year."

"Something new? I thought they *always* had those Auto-Mechanics courses."

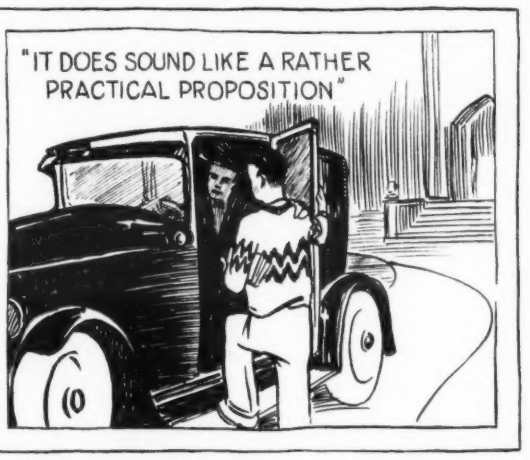
"But this *isn't* an Auto *Mechanics* class—they've always had *those*, of course—this is just a plain *Auto* course. Not for mechanics, but for anyone—for men like you dad. Mr. King says the automobile is getting to be more important in business and social life every day, and that's true isn't it? I can remember when we used to go out into the country in the old bus every Sunday, and then how we'd put it away under a canvas cover until the next Sunday. But gee, dad, you wouldn't think any more of being without a car now than you would of flying, would you?"

"No—Guess not."

"Well, Mr. King says that *that* Auto class is for fellows who have the responsibility of driving and looking after a car. He says it isn't technical—it doesn't teach you how to repair rear axles and fit bearings and all that—a garage knows how to do that—but it *does* teach you how each part of the car works, and what it is for, and how to take care of it. You know you wouldn't have had to buy a new battery last fall if you had had them put water in the old one once in a while. Mr. King says that anyone who is responsible for an automobile ought to understand the fundamental principles of auto mechanics and auto electricity. He says *he* doesn't believe in a shop course for the average fellow, but he *does* think that the average fellow ought to know how to select an auto intelligently and how to give it intelligent care after he has it. He says that the important things are the little things the driver should look after himself—and that anyone who studies that new course will get more use and pleasure out of his auto and it won't cost him so much either. Mr. King says that as long as a man spends so much for an auto and is so dependent upon it, it is only reasonable that he should know something about it—not that he should become a mechanic—but that he should understand what's going on under the hood and beneath the body. Don't you think he's right, dad?"

"Well, I guess there's something to that, son. But I never knew they had any courses in school to fit the average fellow. I thought all those Auto courses were like Manual Training or Machine-Shop work or something like that—and that's where I draw the line. Well, here we are at school."

"Well, do you suppose I could take that course next semester, dad? I'd love to."



"I'll see, son. I'm going to have lunch with Jack's father this noon and I'll see what he thinks about it. It *does* sound like a rather practical proposition."

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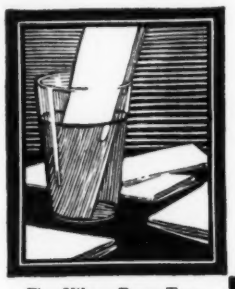

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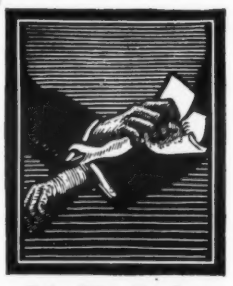

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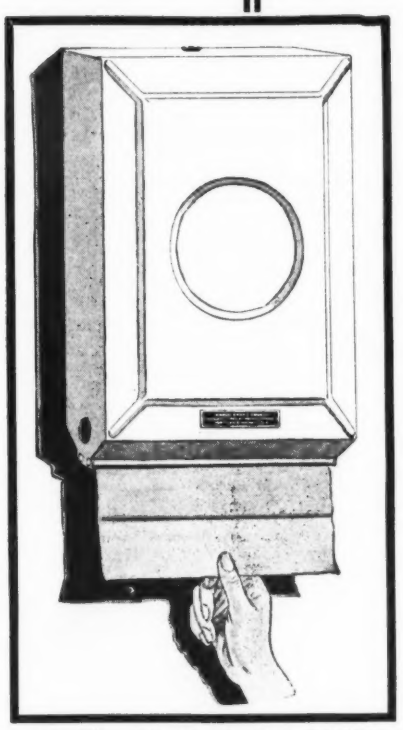

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Seneca Falls Rule & Block Co.

SANDERS
Clarke Sanding Machine Company

SAFETY STAIR TREADS
American Abrasive Metals Co.
Safety Stair Tread Co., The

SASH OPERATING DEVICES, STEEL
Detroit Steel Products Company

SASH, STEEL
Detroit Steel Products Company
Lupton's Sons Co., David

SASH, VENTILATING
Detroit Steel Products Company

SCIENTIFIC APPARATUS—Electr.
Rowles Co., E. W. A.
Standard Electric Time Company

SCENERY
Windowcraft Drapery Co.

SCREENS—PICTURE
Trans-Lux Daylight Picture Screen Corp.

SCRUBBING EQUIPMENT
Continental Chemical Corporation
Finnell System, The

SHOWERS
Clow & Sons, James B.
Hoffmann & Billings Mfg. Co.

SKYLIGHTS—METAL
Lupton's Sons Co., David

SLATED CLOTH
Beckley-Cardy Company
N. Y. Silicate Book Slate Co.
Weber Costello Company

SOAP DISPENSING EQUIPMENT
Palmer Products, Inc.
U. S. Sanitary Specialties Corp.

SOAP—LIQUID
U. S. Sanitary Specialties Corp.

SPRAY PAINTING EQUIPMENT
Vortex Mfg. Co.
DeVilbiss Mfg. Co., The

STAFF LINERS
Weber Costello Company

STAGE CURTAINS, EQUIPMENT AND SCENERY
Acme Scenic Studios
Beck & Sons Co., The Wm.
Kansas City Scenic Co.
Lee Lash Studios
Novelty Scenic Studios
Tiffin Scenic Studios
Twin City Scenic Company
Universal Scenic Studios, Inc.

STAGE EQUIPMENT
Windowcraft Drapery Co.

STAIR TREADS
Alberene Stone Company
American Abrasive Metals Co.
American Blue Stone Company
Norton Company
Safety Stair Tread Co., The

STATIONERS
Blair Company, J. C.

STEEL JOISTS
Truscon Steel Company

STEEL SASHES
Detroit Steel Products Company

STEEL STORAGE CABINETS
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Durand Steel Locker Company
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Remington Rand Bus. Service, Inc.
Rinehimer Bros. Mfg. Co.

TABLETS
Blair Company, J. C.

TALKING MACHINES
Victor Talking Machine Co.

TEACHER AGENCIES
Natl. Assn. of Teacher Agencies
Teacher Agencies Directory

TELEPHONE SYSTEMS
Graybar Electric Co., Inc.
Standard Electric Time Company

TEMPERATURE REGULATION
Buffalo Forge Company
Johnson Service Company

TICKETS
Weldon Williams & Lick

TOILET PAPER AND FIXTURES
A. P. W. Paper Company
National Paper Products Co.
Palmer Products, Inc.
U. S. Sanitary Specialties Corp.

TOWELS
A. P. W. Paper Company
Bay West Paper Company
Brown Company
National Paper Products Co.
Palmer Products, Inc.
U. S. Sanitary Specialties Corp.

TOILET PARTITIONS
Clow & Sons, James B.
Litterer Bros. Mfg. Company
Mills Company, The
Sanymetal Products Company
Structural Slate Company
Weis Mfg. Co., Henry

TYPEWRITERS
Remington Rand Bus. Service, Inc.
Underwood Typewriter Company

VACUUM CLEANING SYSTEMS
Spencer Turbine Company, The
Invincible Vac. Cleaner Mfg. Co.

VACUUM PUMPS
Dunham Company, C. A.
Nash Engineering Company

VALVES—FITTINGS
Bowlus Manufacturing Co., The
Clow & Sons, James B.

VENETIAN BLINDS
Hough Shade Corporation

VENTILATING SYSTEMS
Buckeye Blower Company
Buffalo Forge Company
Dunham Company, C. A.
Nelson Corp., The Herman
Peerless Unit Vent. Co., Inc.
Sturtevant Company, B. F.

VENTILATORS
Buffalo Forge Company
Globe Ventilator Company
Lupton's Sons Co., David

VOCATIONAL EQUIPMENT
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Christiansen, C.
Columbia School Supply Co.
Kimball Company, W. W.
Sheldon & Company, E. H.
Wallace & Co., J. D.

WARDROBES
Evans, W. L.
K-M Supply Company
Wilson Corp., Jas. G.

WASTE PAPER BASKETS
National Vulcanized Fibre Co.
N. W. Expanded Metal Company

WASTE RECEPTACLES
Solar-Sturges Mfg. Co.
U. S. Sanitary Specialties Corp.

WATER CLOSETS
Bowlus Manufacturing Co., The

WATER COLORS
American Crayon Company

WATER PURIFIERS
Clow & Sons, Jas. B. (R. U. V.)
Wallace & Tiernan, Inc.

WATER SYSTEMS
National Utilities Corp.

WEATHERSTRIPS
Athey Company, The

WINDOWS—ADJUSTABLE
Austral Window Company
Mutschler Brothers Company
Detroit Steel Products Company
Lupton's Sons Co., David
N. W. Expanded Metal Company
Truscon Steel Company
Universal Window Company
Williams Pivot Sash Company

WINDOW FIXTURES
Austral Window Company
Columbia Mills, Inc.
Peerless Unit Ventilation Co., Inc.
Williams Pivot Sash Company

WINDOW GUARDS
American Fence Construction Co.
Badger Wire & Iron Works
Logan Co. (Formerly Dow Co.)
N. W. Expanded Metal Company
Stewart Iron Works Co., The

WINDOWS—REVERSIBLE
Austral Window Company
Detroit Steel Products Company
Williams Pivot Sash Company

WINDOW SHADE CLOTH
Columbia Mills, Inc.
Du Pont de Nemours & Co., E. I.

WINDOW SHADES
Athey Company
Beckley-Cardy Company
Columbia Mills, Inc.
Draper Shade Co., Luther O.
Du Pont de Nemours & Co., E. I.
Hough Shade Corporation
Steele Mfg. Co., Oliver C.

WINDOW SHADE ROLLERS
Columbia Mills, Inc.
Hartshorn Company, Stewart

WINDOWS, STEEL
Detroit Steel Products Company

WIRE GUARDS
Badger Wire & Iron Works
Cyclone Fence Co.
Logan Co. (Formerly Dow Co.)
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Antisocial

A pertinent editorial on some phases of modern school management appears in the Ladies' Home Journal, which is in the form of a little story as follows:

Little Peggy came home from school with a black eye. It was, by the way, a school of "self-expression" where the youngsters were taught to be their own natural selves, without any inhibitions.

"Why, Peggy," exclaimed her mother, "what happened?"

"Tommy Tucker hit me."

"Did the teacher punish him?"

"Well," said little Peggy, "she took him up in her arms and said, 'Why, Tommy, how very antisocial!'"

We wonder. In the rude old days the rule was "Spare the rod and spoil the child." And now—"How very antisocial!" Which system would make a better man of Tommy?

Hiker Mathematics

"Mildred," a school teacher said to one of her pupils, "you live near Michael O'Toole, do you not?"

"Yes, ma'am," was the reply. "I go right by his house when I go home to dinner."

"If I give you a note for his mother, will you deliver it and bring me back an answer this afternoon?"

"Dear Mrs. O'Toole: Michael was absent this morning. Will you please tell me what kept him out of school?"

This is the answer that Mildred brought back:

"Dear Mam: Mike is acting as timekeeper for his father. Last nite he came home with an example about how long would it take for a man walking three miles an hour to walk 2½ times around a field four miles square; and as Mike ain't no man we had to send his father. They left early this morning, but I don't no when they will git back. Please make the next problem about something else as my husband has fallen arches and the neighbors don't like to loan their alarm clock."—*Mrs. Shamus O'Toole.*

What Price Glory!

"Now, children," said a teacher, who had been explaining the difference between natural and man-made wonders, "what do you think is the most wonderful thing that man makes?"

The class pondered for a moment. Then the hand of the son of the henpecked man shot up.

"A good excuse!"

Her Excuse

A school nurse sends the following to the Journal of the A.M.A. She had made a home visit to see Willis who was supposed to have been seriously ill and found him playing with the baby while the mother was visiting the movies.

Excuse Willis for being absent few days as he has been sick he don't feel good yet but as the nurse nearly died of a fit here the other day when he was not nearly dead so am sending him today to satisfie you all please do not jump on his face no more about things I write to you come and tell me. Mrs. K.

Between Colleagues

First Professor: I'm glad you liked my new book. Was it better than you expected?

Second Professor: No! Shorter!

BUYERS NEWS

ANNOUNCE IMPROVED PEER VENT HEATING UNIT

The Peerless Unit Ventilation Company, Bridgeport, Conn., has announced the marketing of the improved Peer Vent heating and ventilating unit. The improvements include a new radiator, which has the advantages of thermol efficiency and sturdiness of construction, and an alternating-current motor which eliminates the need of a motor-generator equipment. The fan housings also have been improved, with the provision of increased discharge capacity at lower fan speeds. The dampers have been simplified and six standard combinations of hand and automatic control are listed in the company's new catalog.

The firm announces that the three types of Peer Vent units have been standardized and may be furnished with standard variations to meet practically any architectural requirements, so that all expensive special construction is avoided.

Complete information regarding the improved Peer Vent units may be obtained by writing to the Peerless Unit Ventilation Company at Bridgeport, Conn.

THE NEW TUCKER'WAY FOLDING CHAIR

The Tucker Duck and Rubber Company has announced the marketing of its new Tucker'way folding chair, an all-wood chair incorporating several new features of interest to school boards and school-supply purchasers.

THE NEW TUCKER'WAY FOLDING CHAIR.

The Tucker'way folding chair has no metal in its construction, is glued and nailed, and made in juvenile sizes. The chair is constructed of beechwood in uniform color, and is finished with a waterproof varnish, which will not turn white or warp. The special advantages of the chair are the ease with which it can be opened or closed, the absence of nails to scratch the floor or flesh, and its waterproof finish. The chair is made exceptionally strong and firm, which is shown by the fact that it can withstand a weight of 776 pounds when four men are placed upon it.

Complete information and price lists concerning the Tucker'way folding chair may be obtained by writing the Tucker Duck and Rubber Company at Fort Smith, Ark.

HELP FOR THE SCHOOL STAGE

"The Evolution of a Stage" is the significant title of a new booklet just issued by the Universal Scenic Studio, Incorporated, of Milwaukee, Wis. The booklet describes in detail the planning and installation of stage equipment for school and community auditoriums. The Universal Scenic Studio has manufactured and installed stage scenery in schools in every state of the union except two and has made a special study of school requirements. The firm is prepared to give a complete service in the design and preparation of fine velour curtains, proscenium settings, stage-lighting systems, etc. The new booklet will be sent to any school authority on request.

"THE LYON STANDARD"

The caption of this item is the title of a new monthly publication to be issued by The Lyon Metal Products Incorporated, Aurora, Ill. The new firm is a consolidation of the Lyon Metallic Manufacturing Company and of the Durand Steel Locker Company of Chicago Heights, Ill., and represents a combination of the man power, manufacturing facilities, and distribution organization of two outstanding firms in the locker industry. The new periodical will present from month to month helpful information on the installation and use of lockers in schools, colleges, social centers, and other types of institutions. It will be particularly serviceable to architects and school authorities.

NEW DRAPER SHADE CATALOG

The Luther O. Draper Shade Co., of Spiceland, Ind., has issued its new Catalog No. 20, describing and illustrating the use and general utility of the Draper adjustable window shades.

The Draper adjustable window shades have been manufactured for the last thirty years and have been found very effective in affording correct control of sunlight and better ventilation in schools throughout the country. Every element in the design and construction of the shades has proved to be practicable, dependable, and up to date.

The booklet describes and illustrates various styles of adjustable shades, including the Bell adjustable shade, the Draper Eclipse A, the Draper No. 2 shade, the Draper sanitary roller shade, the Draper No. 3 shade, the Draper Style O shade, the Draper V shade, the Draper shade for tilting sash, and the Draper shade for wide windows.

Complete information and prices may be obtained by writing to the Luther O. Draper Shade Co., at Spiceland, Ind.

BEEM COMPANY REMOVES OFFICE

The Paint Engineers, Inc., of Chicago, Ill., have announced the removal of their main office from 603 West Washington Blvd., to their new location at 1009 South Kolmar Ave.

NEW WALLACE PORTABLE HOLLOW CHISEL MORTISER

The J. D. Wallace Company, of Chicago, Ill., has announced a new portable hollow chisel mortiser for boring square holes up to ½-in. diameter. The machine which does work of the highest caliber, has all the advantages of a large, stationary mortiser, with the added advantage of portability. Simplicity and efficiency in operation have been effected by eliminating all attachments and adjustments not called for in regular work. Symmetrical in design, it is perfectly balanced and accurate in every detail. Three easy-rolling casters in a round, cast-iron base make it easy to move.

The machine has an operating speed of 3,450 r. p. m., which is the correct speed for all work falling within the capacity of this machine—square holes of ¼-in., ⅜-in., and ½-in. diameter, or round holes up to $\frac{17}{32}$-in. diameter. The bit chuck and the motor are entirely inclosed and dustproof.

Vertical and horizontal adjustments of the table are accomplished by convenient handwheels, by means of which the table slides on accurately machined rods. Adequate means are provided for correcting alignment and for taking up play at any time.

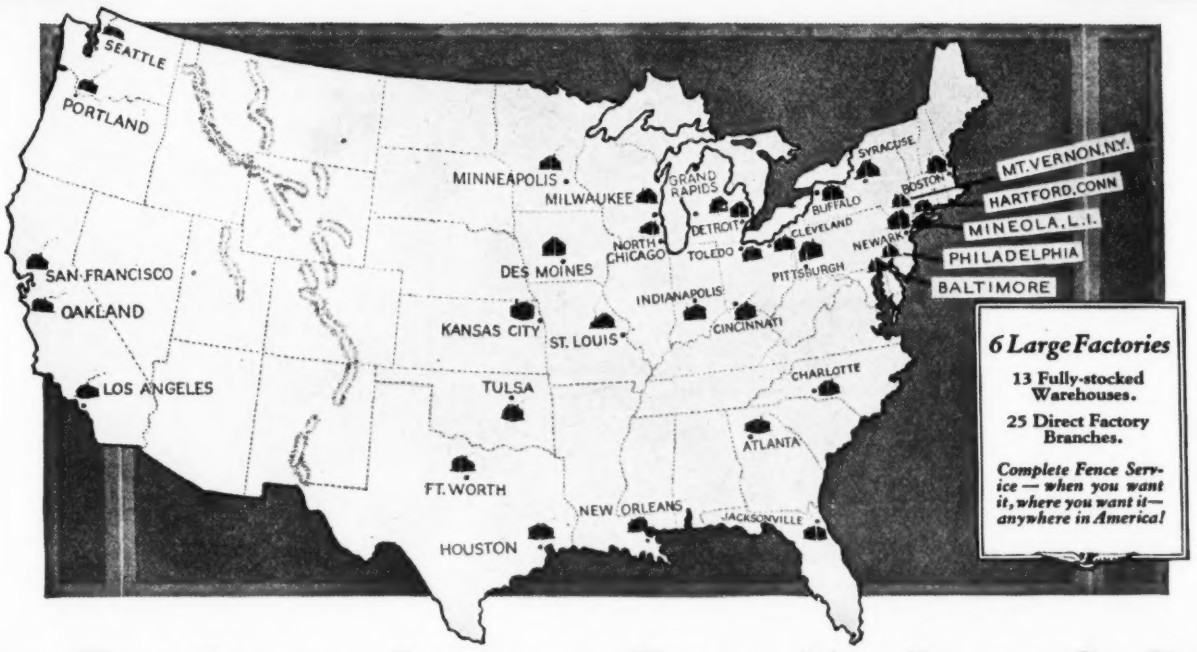
Further information concerning the Wallace portable chisel mortiser may be obtained by writing to the J. D. Wallace Company at 134 South California Ave., Chicago, Ill.

OPENS MILWAUKEE WAREHOUSE

The Eau Claire Book & Stationery Company, operating in the eastern and southern sections of the state of Wisconsin as the Wisconsin School Service, has just opened a warehouse in Milwaukee at 3102 Cherry Street. The development in Milwaukee follows the purchase of the Michigan Education Company, where the firm operates as the Michigan School Service Company at Lansing, Michigan.

THE NEW MILWAUKEE HOME OF THE EAU CLAIRE BOOK & STATIONERY COMPANY.

A NATIONAL FENCING SERVICE ··LOCALIZED··



WEIGH THIS SERVICE CAREFULLY BEFORE YOU DECIDE ON PRICE!

Cyclone Service is an institution that has been in the making for over 31 years. It is national in scope, yet so completely organized that every phase of this service is available at the most obscure point on the map.

Experienced sales representatives are available for consultation at all Cyclone factories and at 25 direct factory branches. More than 100 skilled Cyclone erection crews are stationed at these plants and branches — installing fence in surrounding territory, and covering collectively the entire country.

To complete the Cyclone national network of service, Cyclone maintains fully-stocked warehouses at convenient points for quick shipment to any locality.

The Cyclone Fence Company sells you not simply so many feet of fence but the finished installation. Cyclone never sublets any part of the work but accepts Complete Responsibility. That means proper erection, longer fence life, actually lower per-year cost.

Near you there is a Cyclone representative. Call him in, compare fence values. Weigh Cyclone Specifications and Service carefully before you decide on price.

Write, phone or wire nearest offices without obligation.
Day or night, we're ready to serve you.

Cyclone Fence

REG. U.S. PAT. OFF.

Fencing for residences, estates, schools, playgrounds, factories, property of all kinds.

CYCLONE FENCE COMPANY *Main Offices:* Waukegan, Ill.
Works and Offices: North Chicago, Ill., Cleveland, Ohio, Newark, N. J., Fort Worth, Texas
Pacific Coast Division: Standard Fence Co., Oakland, San Francisco and Los Angeles, Calif., Northwest Fence & Wire Works, Portland, Ore., Seattle, Wash.
Direct Factory Branches in all Principal Cities.

BETTER CLASS ROOMS

at lower than usual cost — erected in less than usual time

Circle A Schools are stronger than the average frame building. Far stronger. They are reinforced at every three feet and at every corner. These better class rooms can do duty for a quarter century.

The walls are thick. Four layers thick—and insulated.

The paint job is splendid. Doors, windows, and outside trim are clean cut with white. Building is warm, brown stained — or if you prefer, painted white. The green, slate-coated roof looks restful.

What's more, Circle A school buildings can be erected in five to eight days' time. Four men can do the work.

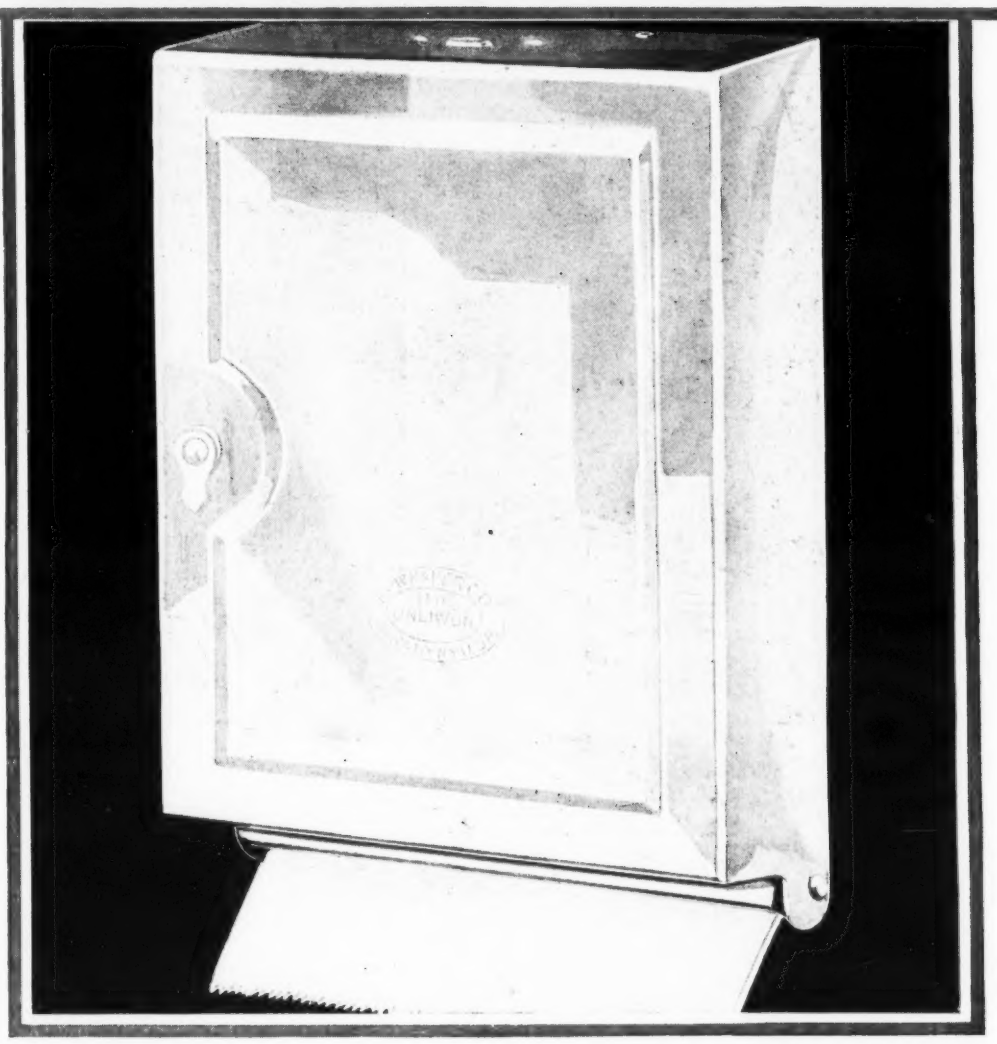
We can't say how much less these schools cost. But we're confident their cost **is** less. (We'll back this up with figures.) Get the details in our book "Schools."

Now is the time to learn about these practical school buildings. Send for "Schools." Do it now. Fall comes fast.

CIRCLE A PRODUCTS CORPORATION
600 S. 25th Street, Newcastle, Ind.

CIRCLE (A) SCHOOLS

A. P. W. PAPER COMPANY, ALBANY, N. Y. U. S. A.



Onliwon toilet paper cabinet in pressed steel; finished in nickel silver, gunmetal or white enamel with Yale lock and contents indicator.

For these Four Reasons

. . . insist on Onliwon

IT'S wasteful to spend more for toilet paper service when the Onliwon system offers you the best at low cost.

Beautiful cabinets — in a variety of types, carefully built . . . never out of order. Easy to refill, reducing servicing time.

Finer paper — soft, yet firm and absorbent. Fewer sheets suffice.

Economy — two interfolded sheets served at one time. No waste. Reduces greatly the actual amount of paper used.

Nationwide service — through our warehouse and distributors permits prompt delivery when and where you want it.

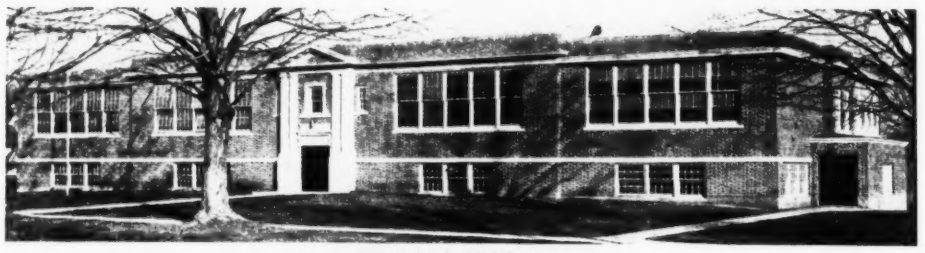
A. P. W. Paper Company, Albany, New York, U. S. A.

Onliwon

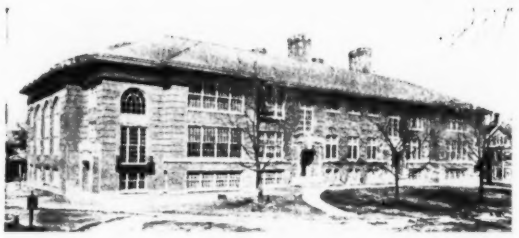
TOILET PAPER AND PAPER TOWEL SERVICE

STANDARD SCHOOL EQUIPMENT

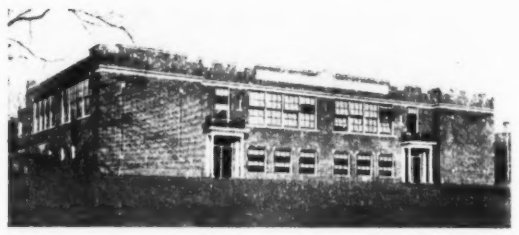
Schools of the SCHOOL PLAN SERVICE BUREAU, Middletown, Conn., Wm. Thomas Towner, Consulting Architect. Equipped With Austral Windows.



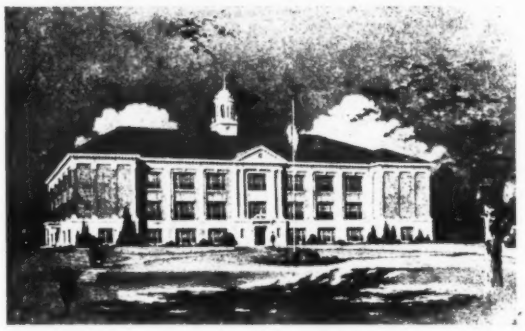
Farm Hill School, Middletown, Conn.



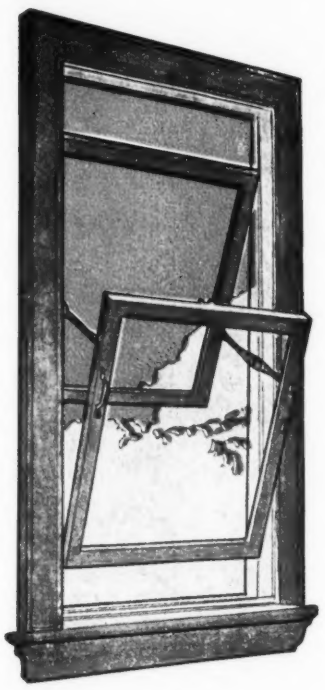
High School, Danielson, Conn.



Middlefield School, Middlefield, Conn.



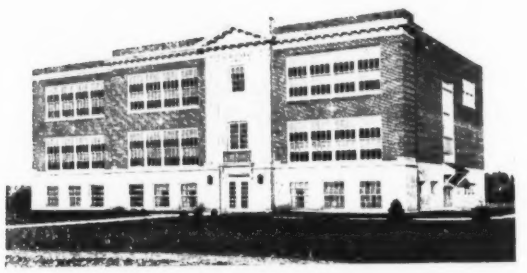
Farmington High School, Farmington, Conn.



Ventilation Without Draft

Grammar School, Plainfield, Conn.

High School, Plainville, Conn.



Calvin Coolidge School, Shrewsbury, Mass.

Tarriffville School, Tariffville, Conn.

The buildings shown here are representative of the fine schools being erected throughout New England. ***Thirty Million Dollars will be spent this year in the New England States for new school construction.*** AUSTRAL is accepted as a STANDARD by the discriminating architects and school authorities who control this huge expenditure.

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